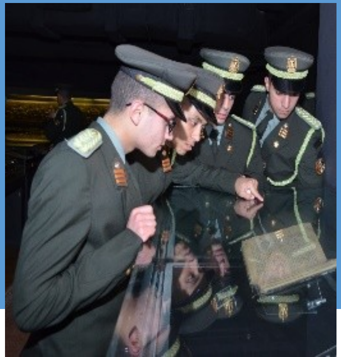
Ministry of Defense
Armed Forces College of Medicine (AFCM)

CRINE & GENITO-URINARY MODULE

Study Guide

2022 - 2023



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Chapter 1: Curriculum at a

(College Vision)   : رؤية الكليـــة

التميز فى التعليم الطبى والبحث العلمى وأن تصبح المرجع الإقليمي فى العلوم الطبية العسكرية.

To achieve excellence in medical education and scientific research and to become the regional reference in military medicine.

رسالة الكلية : (College Mission)

تقدم كلية الطب بالقوات المسلحة تعليماً وتدريباً طبياً عالي الجودة لتخريج ضباط أطباء وباحثين ذوي مهنية عالية ملتزمين بالتنمية المهنية المستدامة وقواعد وأخلاقيات المهنة، لتقديم خدمة وقائية وعلاجية متميزة وإجراء البحوث الصحية والطبية لدعم نظم الرعاية الصحية العسكرية والمدنية بالتعاون والشراكة الإستراتيجية مع المؤسسات ذات الصلة محلياً وإقليمياً ودولياً.

The Armed Forces College of Medicine (AFCM) provides high-quality medical education and training to graduate highly professional medical officers and researchers; committed to sustainable professional development and medical ethics, delivering high quality preventive and therapeutic health-care services and conducting health and medical research to support the military and civilian health-care systems by collaboration and strategic alliances with national, regional and international institutes.

(College Values) : قيم الكلية

1- الإخلاص للوطن
2- الانتماء
3- الإنضباط
4- إنكار الذات
5- الأمانة
6- العمل الجماعي
7- الإبداع
8- الجودة
9- الإتقان
10- الإحترام والتقدير

1. Loyalty to Homeland.
2. Affiliation.
3. Discipline.
4. Selflessness.
5. Honesty.
6. Teamwork.
7. Creativity.
8. Quality.
9. Perfection.
10. Respect and Appreciation.

AFCM Graduate Profile

A2 Demonstrate medical knowledge, analytic thinking and reasoning to approach various clinical situations.

A2.1 Apply knowledge of clinical and biomedical sciences relevant to the clinical problem at hand.
A2.2 Use personal judgment for analytical and critical problem solving and seeking out information.
A2.3 Demonstrate and apply the effective utilization of laboratory tests, radiologic, or office-based procedures to diagnose and/or manage common diseases and life- threatening conditions.
A2.4 Demonstrate and apply knowledge of the therapeutic interventions (medical, surgical, physical and behavioural) available for common diseases and life-threatening conditions, including interventions for prevention, management and palliative care.
A2.5 Apply knowledge of the epidemiology of common diseases and conditions including their predisposing personal, occupational, environmental, sexual, socioeconomic and cultural risk factors to identify systematic approaches for effective prevention and behavioural change appropriate to improve health care in both military and civilian population.

A3 Demonstrate knowledge of the unique competencies required for the practice of medicine in support of military operations and readiness to apply such knowledge.

A3.1 Demonstrate the major developments in the history of medicine, the evolution of military medical sciences, health care management systems and economics, which lead to the contemporary military healthcare system.

A3.2 Recognize the diagnosis, prevention and treatment of disorders associated with the unique aerospace and marine environments, with the adaptive systems designed to enhance performance and support life under such conditions.

B Health Promotion

B1 Maintain normal health, provide primary health care and deal with common health problems in the society.

B1.1 Demonstrate the determinants of health, principles of surveillance and screening of common community health problems and diseases.

B1.2 Define and describe a population, including its demography, cultural and socioeconomic institution, circumstances of living and health status and understand the relevance of these factors to the population’s health.

B1.3 Reason deductively in solving clinical problems:

  a) Classify factors that place individuals at risk for disease or injury, to determine strategies for appropriate response.
  b) Recognize, define and prioritize problems.
  c) Interpret, analyze, and evaluate information objectively, especially when in many situations not all desired information is available, thus requiring decisions to be based on the most reasonable interpretation of the information available.

B1.4 Discuss the role of nutrition and physical activity in health promotion.

B2 Provide healthcare services aimed at health promotion and supporting healthy, fit and ready military forces.

B2.1 Recognize, treat, and take appropriate measures to prevent communicable diseases, conditions and injuries that have the potential to reduce military readiness or that are unique to military service.

B2.2 Demonstrate effective skills in triage, stabilization, management, and evacuation for civilian and military emergency response and mass casualty situations, including response to weapons of mass destruction (biological, chemical, radiological, and nuclear threats).

B3 Gather essential and accurate information for the purpose of health problem identification and characterization.

B3.1 Formulate an accurate comprehensive medical history that covers all essential aspects of a patient and his/her problem.

B4 Perform full physical and mental state examination.

B4.1 Practice full physical examination and specific focused organ examination of patients with acute or chronic clinical conditions, including a mental status assessment, appropriate to the age and gender, and culturally sensitive.

B4.2 Document clinical encounters in an accurate, complete, timely, and accessible manner, in compliance with regulatory and legal requirements.

B5 Make informed decisions to develop diagnostic and therapeutic management plans for common health problems based on patients' values and engagement, and up-to-date medical evidence.

B5.1 Integrate the results of history, physical and laboratory test findings into a meaningful diagnostic formulation.
B5.2 Formulate a treatment plan, demonstrating the ability to take action by balancing the risks and benefits of outcomes and treatment options.
B5.3 Conduct appropriate management strategies for patients with common conditions related to different age groups and genders, both acute and chronic, including medical, psychiatric and surgical conditions, and those requiring short and long term rehabilitation.
B5.4 Understand and utilize multidisciplinary principles and a patient-centered approach to palliative and end-of-life care.

B6 Perform clinical procedures especially those required in life saving situations.

B6.1 Perform routine clinical procedures at a level suitable to medical students and according to the clinical skill program.
B6.2 Recognize patients with immediately life threatening cardiac, pulmonary or neurological conditions regardless its etiology, apply basic and advanced life support principles, and initiate appropriate course of management for patients with serious conditions requiring critical care.

C Ethics, Professionalism and Leadership Development

C1 Be aware of the importance of a good doctor-patient relationship and follow rules of medical military and civilian health ethics.

C1.1 Compassionate treatment of patients adopting an empathic approach to them and their problems, perpetuating respect for their privacy, dignity and confidentiality

C1.2 Recognize the theories and principles that dictate ethical decision making, and the major ethical dilemmas in medicine, particularly those related to the beginning and the end of life, organ transplantation and those originated with the revolutionary development of genetics.

C1.3 Understand and support the national code of ethics, the basics of medico-legal aspects of health problems, malpractice and common medical errors issued by the Egyptian Medical Syndicate.

C1.4 Demonstrate commitment to the appropriate ethical delivery of health care in settings of armed conflicts and operations other than war, through compliance to the principles of the Geneva Conventions and the Laws of Armed Conflict as they apply to health care providers.

C1.5 Report any unprofessional or unethical behavior and physical or mental conditions related to himself, colleagues or any other person that might jeopardize patients’ safety.

C2 Show compassion, respect, integrity and responsiveness to the needs of patients and society that supersedes self-interests as well as a commitment to excellence and ongoing professional development.

C2.1 Appraise and support patients’ rights and involve them and /or their caretakers in management decisions, enthusiastically putting the patients’ interests over one’s own interests.

C2.2 Identify vulnerable individuals that may be suffering from abuse or neglect and take the proper actions to safeguard their welfare.

C3 Demonstrate sensitivity and responsiveness to patients' religion, culture, age, sex and disabilities.

C3.1 Demonstrate honesty and integrity in all interactions with patients' families and colleagues, along with free acceptance of different cultural believes and values in the community they serve.

C3.2 Provide special care for specific groups including pregnant women, newborns and infants, adolescents and the elderly.

C4 Collaborate with other health care professionals, including those from other disciplines to provide patient-centered care.

C4.1 Recognize and respect the importance of other health care professionals' roles and the need to collaborate with others in caring for patient's management and promoting the health of defined populations.

C4.2 Recognize and accept ones' own limitations of clinical skills and uncertainty of knowledge through proper counseling, consultation and referral of patients to appropriate health facility at the appropriate stage to guarantee patient's safety during medical practice.

C5 Work professionally as a health care team leader or member, or in any other military work group.

C5.1 Display personal development and time management skills for balancing professional and personal responsibilities.
C5.2 Apply the principles of appropriate and ethical behavior for those who are officers in military service, civil servants and physicians involved in health care systems.
C5.3 Demonstrate competencies to operate effectively as an officer in a uniformed team or as a leader in a variety of military-medical environments.

D Interpersonal, Cross Cultural and Communication skills

D1 Communicate professionally and demonstrate respectful caring behavior when interacting with patients, families and groups.

D1.1 Practice active listening, communicate sensitively and ethically, demonstrate honour and respectful behaviours when interacting with, counselling, and educating patients and their families, superiors, colleagues and any other member of the health profession.
D1.2 Demonstrate compassion to the patients and their relatives in situations of stress and grief and act immediately when they suffer harm, explain treatment complications as they occur, and apologize when appropriate.
D1.3 Describe to the patients the progress of their condition, respect their varying needs for information and explanation and encourage them to discuss the proposed treatment with their supporters.
D1.4 Apply the principles of shared decision-making as an interpersonal and communication based skill.

D2 Communicate effectively with different societies irrespective of culture, race, gender, socioeconomic status, literacy and religious believes.

D2.1 Demonstrate equity and appropriate skills when interacting with individuals of different age, race, abilities, culture, sex, socio-economic status, literacy and religious practices.

D2.2 Apply effective interpersonal and facilitative interviewing skills to efficiently provide adequate information through effective verbal, nonverbal, and/or written communications.

D2.3 Demonstrate continuous self-awareness and calibration of one's individual reaction tendencies in reducing personal bias and achieving optimal patient centred outcomes.

D2.4 Apply constructive feedback in evaluating his/her work and that of others.

E Health Care Systems

E1 Advocate sound quality healthcare at the Egyptian Armed Forces medical services department.

E1.1 Apply effective skills for health care and health service support in operational deployment and emergency response, including the concepts of mobility, proximity, flexibility, conformity, and coordination.

E1.2 Demonstrate competency in planning and execution of military contingency operations, forward combat casualty care including initial stabilization and movement from point of injury through all echelons of the military medical system, and the human performance optimization and sustainment of military personnel who train and operate in harsh, often austere, physically and mentally challenging environments.

E1.3 Improve the health service provision by applying a process of continuous quality improvement.

E2 Coordinate with components of other health care systems in the country and globally.

E2.1 Describe the organizational structures of the military health services and ministry of health, demonstrating the differences from one another, regarding the methods for controlling costs and allocating resources as well as the interactions between the two systems under operational conditions.

E2.2 Demonstrate accountability to patients, society, and the profession.

E3 Understand how patient care and health professional practices affect the health care organization.

E3.1 Advocate for access to health care, quality patient care and patient safety, and assist patients in dealing with system complexities.

E3.2 Adopt the most suitable measures for infection control according to the setting.

E4 Practice efficient resources management and cost-effective health care without compromising quality of care.

E4.1 Formulate and make decisions for individuals and groups, demonstrating knowledge of cost / benefit issues in health care.

F Evidence-based and lifelong learning

F1 Acquire information and make decisions based on best available evidence.

F1.1 Retrieve, analyze, and evaluate relevant and current data from literature, using information technologies and library resources, in order to help solve a clinical problem based on evidence (EBM).

F2 Apply knowledge of research design and biostatistics to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness.

F2.1 Discuss the power of the scientific method in establishing disease causation and in demonstrating the efficacy of traditional and complementary therapies.
F2.2 Analyze and use numerical data including the use of basic statistical methods.

F3 Demonstrate knowledge of the information resources and technology tools available to support life-long learning.

F3.1 Apply information technology in managing medical data. Access on-line medical information, and support their own education.
F3.2 Demonstrate self-reflective abilities, to include the ability to develop and implement a plan of personal self-improvement.
F3.3 Summarize and present to professional and lay audiences the findings of relevant research and scholarly inquiry.

F4 Engage in ethical postgraduate and research studies.

F4.1 Demonstrate a commitment for the lifelong learning needs of the medical profession, to stay abreast of relevant scientific advances.

F4.2 Formulate research questions that are pertinent to medicine.
F4.3 Recognize the importance of precision in collecting, analyzing and interpreting medical and scientific data.
F4.4 Critically appraise research studies and scientific papers in terms of integrity, reliability, validity and applicability.

Curriculum Map

<table>
<tr><td></td><td>Weeks</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td></tr>
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<tr><td rowspan="6">Phase II</td><td rowspan="2"></td><td colspan="20">Semester 9 (20 Weeks)</td><td colspan="5"></td></tr>
<tr><td colspan="16">Teaching in Rotations</td><td colspan="4">Horizontal Teaching</td><td colspan="5"></td></tr>
<tr><td>Fifth Y</td><td colspan="4">Dermatology and venereal diseases
(4W) (5 CP)</td><td colspan="4">Psychiatry
(4W) (5 CP)</td><td colspan="4">Anaesth. & Critical Care
(4W) (5 CP)</td><td colspan="4">Special Senses + ENT & OPhth
(4W) (5 CP)</td><td colspan="4">Oncology
(4W) (5 CP)</td><td colspan="4">Ortho & traumatology
(4W) (5 CP)</td><td>E
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<tr><td rowspan="2"></td><td colspan="20">Semester 7 (20 Weeks)</td><td colspan="5"></td></tr>
<tr><td colspan="20">Teaching in Rotations</td><td colspan="5"></td></tr>
<tr><td>Fourth Y</td><td colspan="10">Surgery
2
(10 W) (13 CP)</td><td colspan="10">Medicine
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(10 W) (13 CP)</td><td colspan="5">Obs
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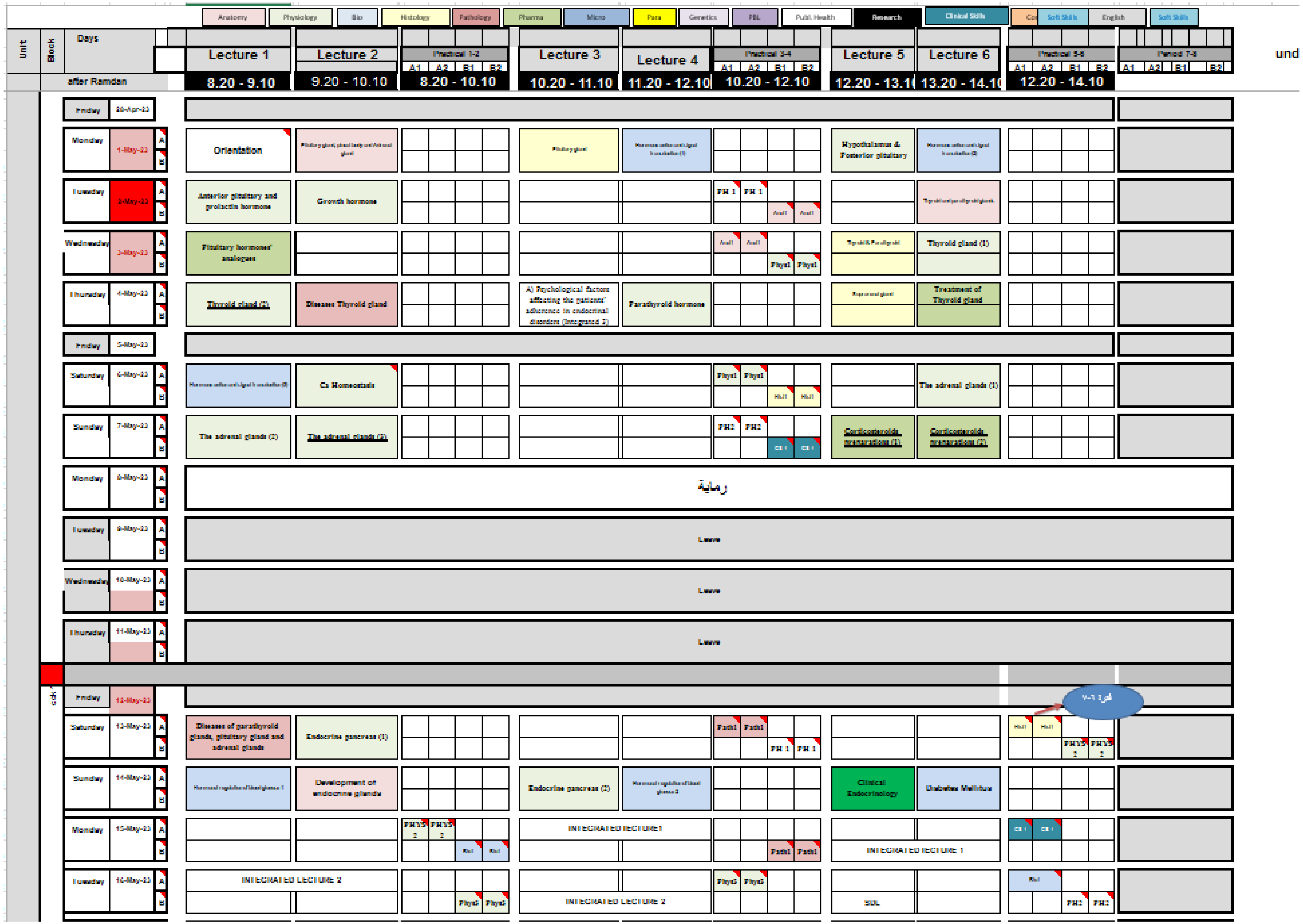

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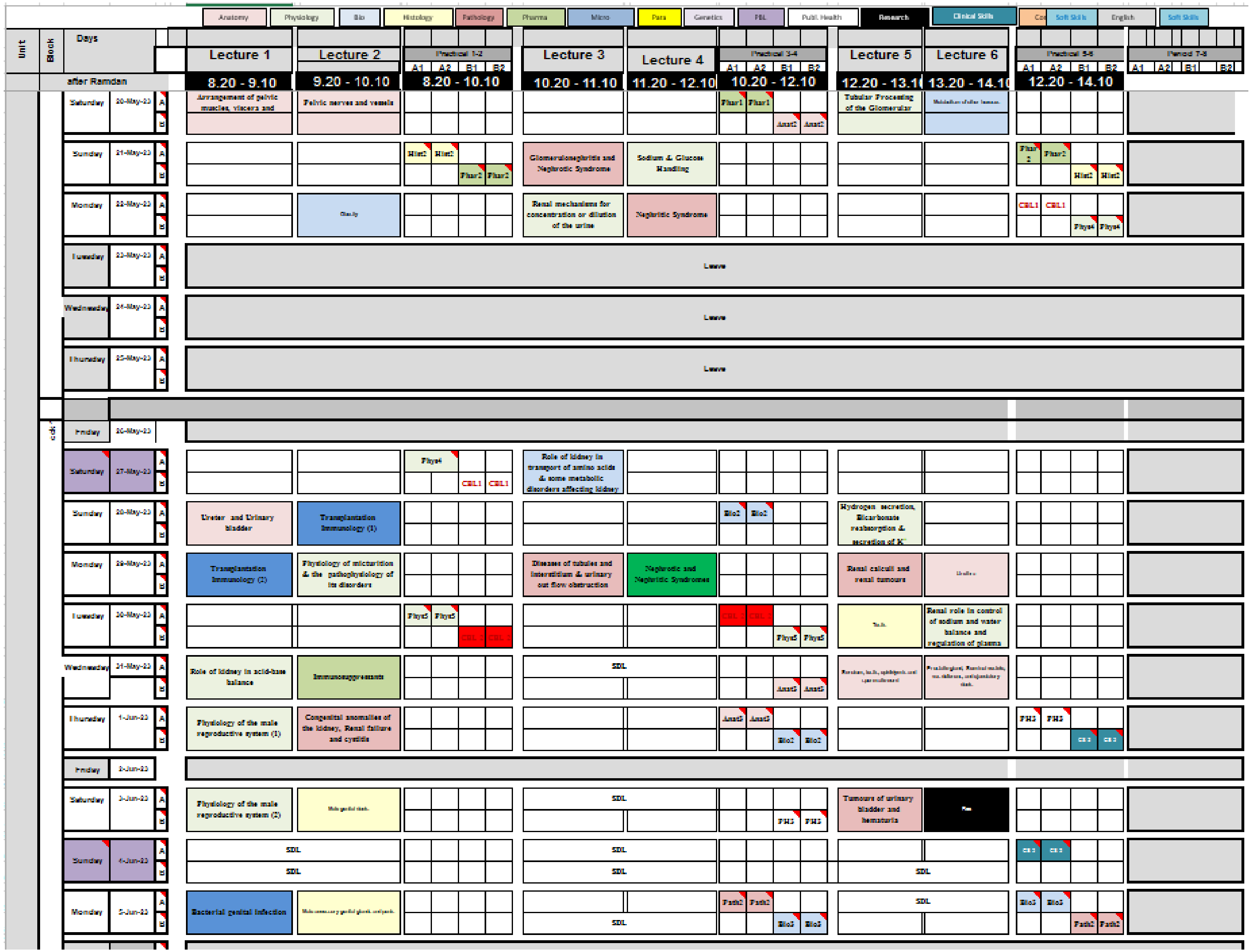
Unit / Block / Days after Ramdan		Lecture 1 8.20 - 9.10	Lecture 2 9.20 - 10.10	Practical 1-2 8.20 - 10.10 A1 A2 B1 B2	Lecture 3 10.20 - 11.10	Lecture 4 11.20 - 12.10	Practical 3-4 10.20 - 12.10 A1 A2 B1 B2	Lecture 5 12.20 - 13.1	Lecture 6 13.20 - 14.1	Practical 5-6 12.20 - 14.10 A1 A2 B1 B2	Period 7-8 A1 A2 B1 B2
Friday	29-Apr-22										
Monday	1-May-22	Orientation	[illegible]		[illegible]	[illegible]		Hypothalamus & Posterior pituitary	[illegible]		
Tuesday	2-May-22	Anterior pituitary and prolactin hormone	Growth hormone				PH 1 PH 1 Anat Anat		[illegible]		
Wednesday	3-May-22	Pituitary hormones' analogues					Anat Anat Physl Physl	[illegible]	Thyroid gland (1)		
Thursday	4-May-22	Thyroid gland (2)	Diseases Thyroid gland		A) Psychological factors affecting the patients' adherence in endocrinal disorders (Integrated 2)	Parathyroid hormone		[illegible]	Treatment of Thyroid gland		
Friday	5-May-22										
Saturday	6-May-22	[illegible]	Ca Homeostasis				Physl Physl Hist Hist		The adrenal glands (1)		
Sunday	7-May-22	The adrenal glands (2)	The adrenal glands (3)				PH2 PH2 CS CS	Corticosteroids preparations (1)	Corticosteroids preparations (2)		
Monday	8-May-22	رماية									
Tuesday	9-May-22	Leave									
Wednesday	10-May-22	Leave									
Thursday	11-May-22	Leave									
Friday	12-May-22										
Saturday	13-May-22	Diseases of parathyroid glands, pituitary gland and adrenal glands	Endocrine pancreas (1)				Path1 Path1 PH 1 PH 1			Hist Hist PHYS 2 PHYS 2	
Sunday	14-May-22	[illegible]	Development of endocrine glands		Endocrine pancreas (2)	[illegible]		Clinical Endocrinology	Diabetes Mellitus		
Monday	15-May-22			PHYS 2 PHYS 2 Biol Biol	INTEGRATED LECTURE1		Path1 Path1	INTEGRATED LECTURE 1		CS CS	
Tuesday	16-May-22	INTEGRATED LECTURE 2		Phys5 Phys5	INTEGRATED LECTURE 2		Phys5 Phys5	SDL		Biol PH2 PH2	



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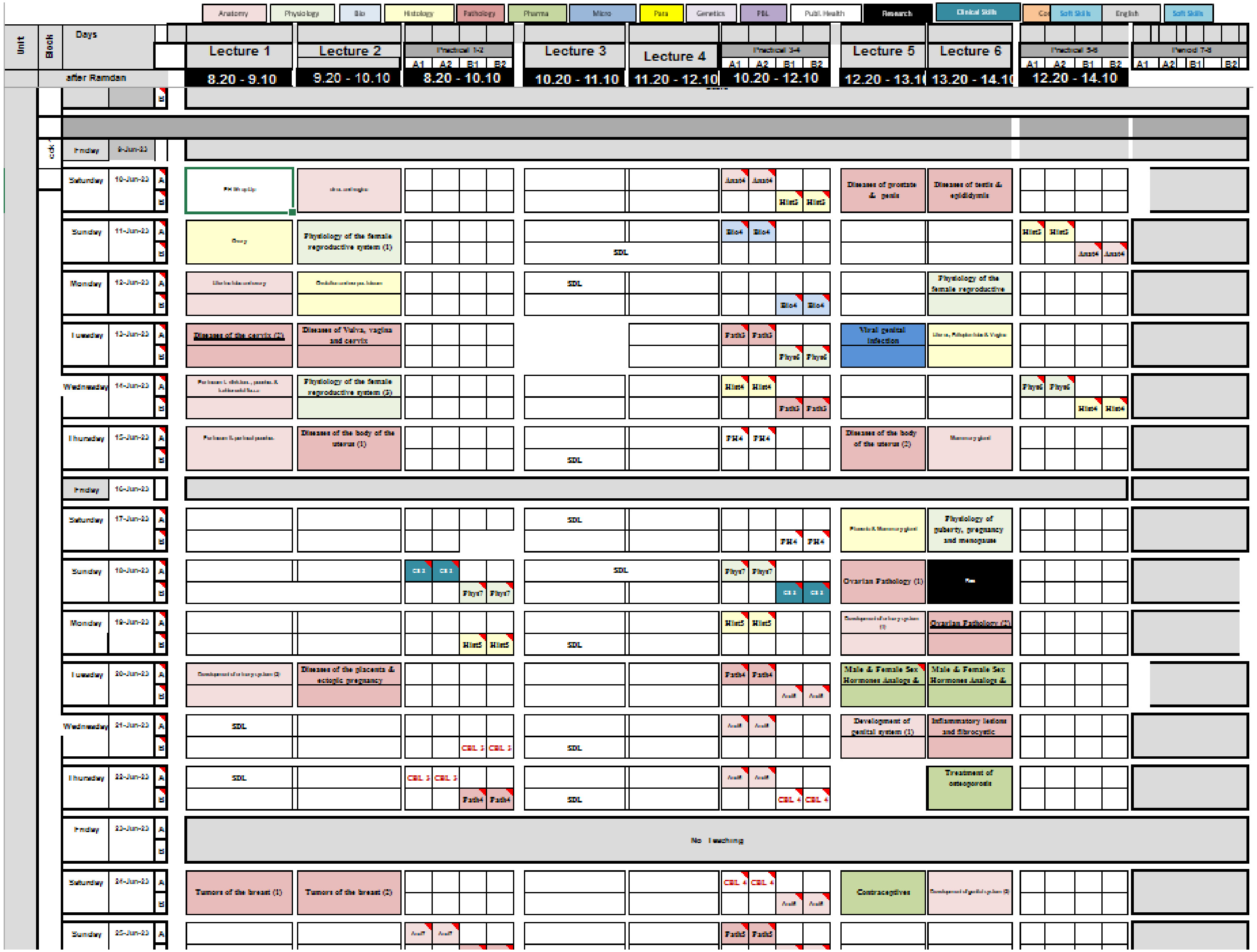
Unit / Block / Days	Date		Lecture 1 8.20 - 9.10	Lecture 2 9.20 - 10.10	Practical 1-2 (8.20 - 10.10) A1	A2	B1	B2	Lecture 3 10.20 - 11.10	Lecture 4 11.20 - 12.10	Practical 3-4 (10.20 - 12.10) A1	A2	B1	B2	Lecture 5 12.20 - 13.10	Lecture 6 13.20 - 14.10	Practical 5-6 (12.20 - 14.10) A1	A2	B1	B2	Period 7-8 A1	A2	B1	B2
after Ramdan																								
Saturday	20-May-23	A	Arrangement of pelvic muscles, viscera and	Pelvic nerves and vessels							Phar1	Phar1			Tubular Processing of the Glomerular	[illegible]								
		B											Anat2	Anat2										
Sunday	21-May-23	A			Hist2	Hist2			Glomerulonephritis and Nephrotic Syndrome	Sodium & Glucose Handling							Phar 2	Phar2						
		B					Phar2	Phar2											Hist2	Hist2				
Monday	22-May-23	A		Obesity					Renal mechanisms for concentration or dilution of the urine	Nephritic Syndrome							CBL1	CBL1						
		B																	Phys4	Phys4				
Tuesday	23-May-23	A	Leave																					
		B																						
Wednesday	24-May-23	A	Leave																					
		B																						
Thursday	25-May-23	A	Leave																					
		B																						
Friday	26-May-23																							
Saturday	27-May-23	A			Phys4				Role of kidney in transport of amino acids & some metabolic disorders affecting kidney															
		B					CBL1	CBL1																
Sunday	28-May-23	A	Ureter and Urinary bladder	Transplantation Immunology (1)							Bio2	Bio2			Hydrogen secretion, Bicarbonate reabsorption & secretion of K+									
		B																						
Monday	29-May-23	A	Transplantation Immunology (2)	Physiology of micturition & the pathophysiology of its disorders					Diseases of tubules and interstitium & urinary out flow obstruction	Nephrotic and Nephritic Syndromes					Renal calculi and renal tumours	[illegible]								
		B																						
Tuesday	30-May-23	A			Phys5	Phys5					CBL 2	CBL 2			Testis.	Renal role in control of sodium and water balance and regulation of plasma								
		B					CBL 2	CBL 2					Phys5	Phys5										
Wednesday	31-May-23	A	Role of kidney in acid-base balance	Immunosuppressants					SDL						Scrotum, testis, epididymis and spermatic cord	Prostate gland, Seminal vesicle, vas deferens, and ejaculatory duct.								
		B											Anat3	Anat3										
Thursday	1-Jun-23	A	Physiology of the male reproductive system (1)	Congenital anomalies of the kidney, Renal failure and cystitis							Anat3	Anat3					PH3	PH3						
		B											Bio2	Bio2					CS 3	CS 3				
Friday	2-Jun-23																							
Saturday	3-Jun-23	A	Physiology of the male reproductive system (2)	Male genital duct.					SDL						Tumours of urinary bladder and hematuria	Res								
		B											PH3	PH3										
Sunday	4-Jun-23	A	SDL						SDL								CS 3	CS 3						
		B	SDL						SDL						SDL									
Monday	5-Jun-23	A	Bacterial genital infection	Male accessory genital glands and penis.							Path2	Path2			SDL		Bio3	Bio3						
		B							SDL				Bio3	Bio3					Path2	Path2				



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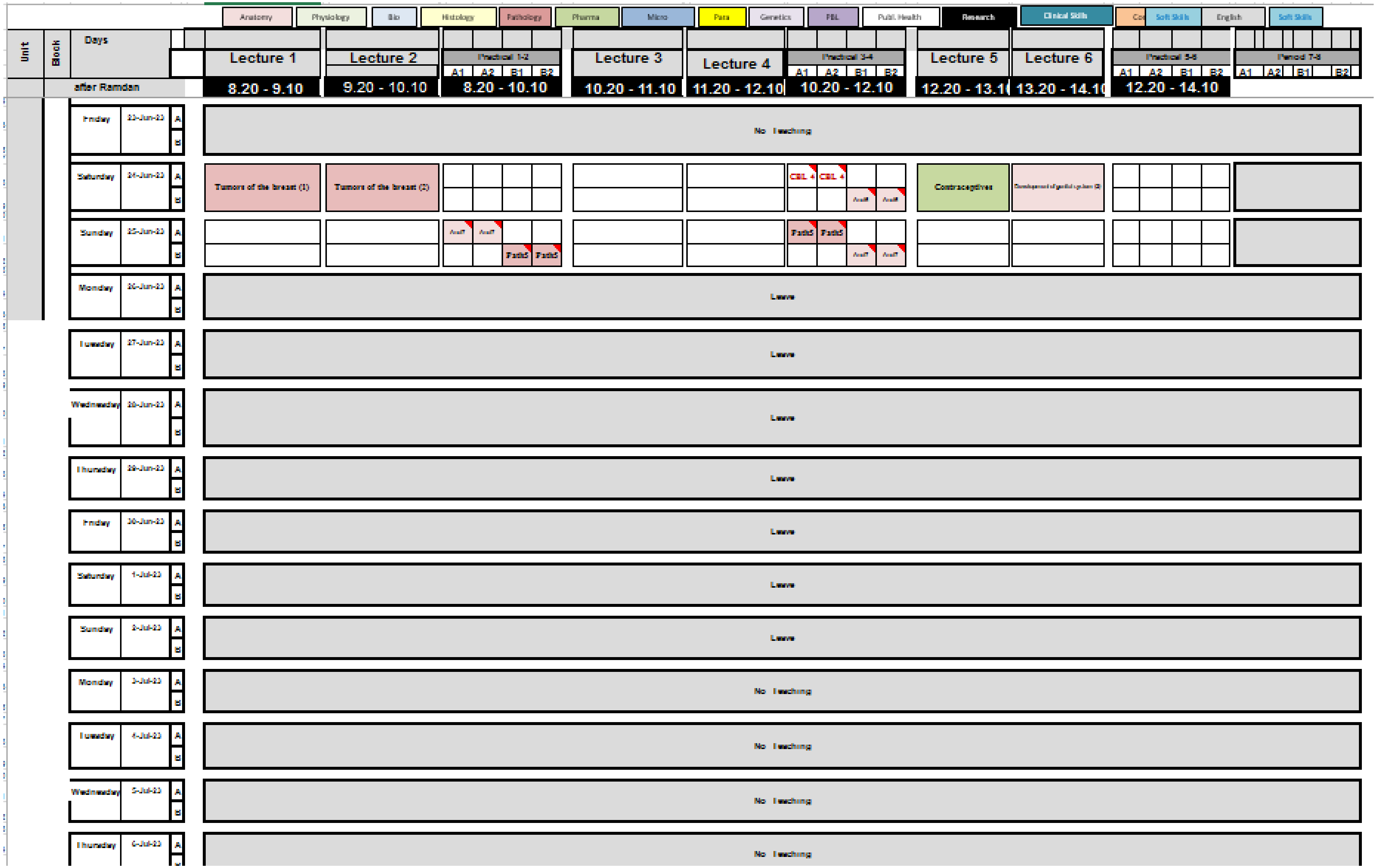
Days	after Ramdan	Lecture 1 8.20 - 9.10	Lecture 2 9.20 - 10.10	Practical 1-2 (A1, A2, B1, B2) 8.20 - 10.10	Lecture 3 10.20 - 11.10	Lecture 4 11.20 - 12.10	Practical 3-4 (A1, A2, B1, B2) 10.20 - 12.10	Lecture 5 12.20 - 13.10	Lecture 6 13.20 - 14.10	Practical 5-6 (A1, A2, B1, B2) 12.20 - 14.10	Period 7-8 (A1, A2, B1, B2)
Friday	9-Jun-22										
Saturday	10-Jun-22	[illegible]	[illegible]				Anat4 Anat4 Hist5 Hist5	Diseases of prostate & penis	Diseases of testis & epididymis		
Sunday	11-Jun-22	Ovary	Physiology of the female reproductive system (1)		SDL		Bio4 Bio4			Hist5 Hist5 Anat4 Anat4	
Monday	12-Jun-22	[illegible]	[illegible]		SDL		Bio4 Bio4		Physiology of the female reproductive		
Tuesday	13-Jun-22	Diseases of the cervix (2)	Diseases of Vulva, vagina and cervix				Path5 Path5 Phys6 Phys6	Viral genital infection	Uterus, Fallopian tube & Vagina		
Wednesday	14-Jun-22	[illegible]	Physiology of the female reproductive system (2)				Hist4 Hist4 Path5 Path5			Phys6 Phys6 Hist4 Hist4	
Thursday	15-Jun-22	[illegible]	Diseases of the body of the uterus (1)		SDL		PH4 PH4	Diseases of the body of the uterus (2)	Mammary gland		
Friday	16-Jun-22										
Saturday	17-Jun-22				SDL		PH4 PH4	Placenta & Mammary gland	Physiology of puberty, pregnancy and menopause		
Sunday	18-Jun-22			CS1 CS1 Phys7 Phys7	SDL		Phys7 Phys7 CS1 CS1	Ovarian Pathology (1)	Res		
Monday	19-Jun-22			Hist5 Hist5	SDL		Hist5 Hist5	Development of urinary system (1)	Ovarian Pathology (2)		
Tuesday	20-Jun-22	Development of urinary system (2)	Diseases of the placenta & ectopic pregnancy				Path4 Path4 Anat8 Anat8	Male & Female Sex Hormones Analogs &	Male & Female Sex Hormones Analogs &		
Wednesday	21-Jun-22	SDL		CBL 3 CBL 3	SDL		Anat8 Anat8	Development of genital system (1)	Inflammatory lesions and fibrocystic		
Thursday	22-Jun-22	SDL		CBL 3 CBL 3 Path4 Path4	SDL		Anat8 Anat8 CBL 4 CBL 4		Treatment of osteoporosis		
Friday	23-Jun-22	No Teaching									
Saturday	24-Jun-22	Tumors of the breast (1)	Tumors of the breast (2)				CBL 4 CBL 4 Anat8 Anat8	Contraceptives	Development of genital system (2)		
Sunday	25-Jun-22			Anat7 Anat7			Path5 Path5				



Anatomy | Physiology | Bio | Histology | Pathology | Pharma | Micro | Para | Genetics | PBL | Publ. Health | Research | Clinical Skills | Co | Soft Skills | English | Soft Skills

Unit	Block	Days			Lecture 1	Lecture 2	Practical 1-2				Lecture 3	Lecture 4	Practical 3-4				Lecture 5	Lecture 6	Practical 5-6				Period 7-8			
							A1	A2	B1	B2			A1	A2	B1	B2			A1	A2	B1	B2	A1	A2	B1	B2
	after Ramdan				8.20 - 9.10	9.20 - 10.10	8.20 - 10.10				10.20 - 11.10	11.20 - 12.10	10.20 - 12.10				12.20 - 13.1	13.20 - 14.1	12.20 - 14.10							
		Friday	23-Jun-23	A	No Teaching																					
				B																						
		Saturday	24-Jun-23	A	Tumors of the breast (1)	Tumors of the breast (2)							CBL 4	CBL 4			Contraceptives	Development of genital system (2)								
				B											Ana8	Ana8										
		Sunday	25-Jun-23	A			Ana7	Ana7					Path5	Path5												
				B					Path5	Path5					Ana7	Ana7										
		Monday	26-Jun-23	A	Leave																					
				B																						
		Tuesday	27-Jun-23	A	Leave																					
				B																						
		Wednesday	28-Jun-23	A	Leave																					
				B																						
		Thursday	29-Jun-23	A	Leave																					
				B																						
		Friday	30-Jun-23	A	Leave																					
				B																						
		Saturday	1-Jul-23	A	Leave																					
				B																						
		Sunday	2-Jul-23	A	Leave																					
				B																						
		Monday	3-Jul-23	A	No Teaching																					
				B																						
		Tuesday	4-Jul-23	A	No Teaching																					
				B																						
		Wednesday	5-Jul-23	A	No Teaching																					
				B																						
		Thursday	6-Jul-23	A	No Teaching																					

Modules and Courses along the

Marks	Credit Points	Total Student Effort	Course Code	Course Title	Year
60	3	90	CTS 102	Clinical & Technical Skills I	First Year
80	4	120	NTSP 103	Non-technical Skills & Professionalism I	
20	1	30	RT 104	Research Track I	
80	4	120	FMC 105	Foundation of Medical Cadet	
160	8	240	FBMS 106	Foundation of Basic Medical Sciences I (Normal Structure and Function)	
160	8	240	FBMS 107	Foundations Basic Medical Sciences II (Concepts of Health & Disease)	
100	5	150	IB 110	Immunology & Blood	
200	10	300	MSI 106	Musculo-skeletal & Integumentary System	
920	**46**	**1380**	**Total 1st Year**		

Marks	Credit Points	Total Student Effort	Course Code	Course Title	Year
60	3	90	CTS 202	Clinical & Technical Skills II	**Second Year**
80	4	120	NTSP 203	Non-technical Skills & Professionalism II	
20	1	30	RT 204	Research Track II	
260	13	390	CP 205	Cardio-pulmonary	
260	13	390	NS 206	Neuroscience	
200	10	300	GM 207	GIT & Metabolism	
260	13	390	EGU 208	Endocrine & Genito-urinary	
0	**0**	**1800**	**Total 2nd Year**		

Marks	Credit Points	Total Student Effort	Course Code	Course Title	Year
100	5	150	CTS 302	Clinical & Technical Skills III	**Third Year**
40	2	60	NTSP 303	Non-technical Skills & Professionalism III	
20	1	30	RT 304	Research Track III	
100	5	150	BSS 305	Behavioral & Social Sciences	
260	13	390	INF 306	Infectious Diseases	
80	4	120	AM 307	Aerospace Medicine	
80	4	120	DM 308	Diving Medicine	
100	5	135	MED 309	Medicine I	
100	5	135	SUR 310	Surgery I	
100	5	135	OBG 311	Obstetrics /Gynecology I	
100	5	135	PED 312	Paediatrics I	
60	3	90	RC 313	Research Capstone	
80	4	120	Gen 314	Genetics	
1280	**64**	**1860**	**Total 3rd Year**		

Marks	Credit Points	Total Student Effort	Course Code	Course Title	Year
100	5	150	CTS 402	Clinical & Technical Skills IV	Fourth Year
40	2	60	NTSP 403	Non-technical Skills & Professionalism IV	
60	3	90	RT 404	Research Track IV	
260	13	350	MED 405	Medicine II	
260	13	350	SUR 406	Surgery II	
260	13	350	OBG 407	Obstetrics /Gynecology II	
260	13	350	PED 408	Pediatrics II	
0	**0**	**1790**	**Total 4th Year**		

Marks	Credit Points	Total Student Effort	Course Code	Course Title	Year
140	7	210	CTS 502	Clinical & Technical Skills V	Fifth Year
40	2	60	NTSP 503	Non-technical Skills & Professionalism V	
100	5	150	RT 504	Research Track V	
100	5	135	DVD 505	Dermatology and Venereal Diseases	
100	5	135	PSY 506	Psychiatry	
100	5	135	ANC 507	Anaesthesia & Critical Care	
100	5	135	EO 508	Special Senses (ENT & Ophthalmology)	
100	5	135	ONC 509	Oncology	
100	5	135	OT 510	Ortho & traumatology	
100	5	135	EMT 511	Emergency Medicine & Clinical Toxicology	
100	5	135	FE 512	Forensic & Medical Ethics	
100	5	135	FSM 513	Field Surgery & Medicine	
60	3	75	FSMP 514	Field Surgery & Medicine Project	
0	**0**	**1800**	**Total 5th Year**		

Chapter 2: Endocrine & Genito-urinary EGU 208

Module description:

Endocrine & Genitourinary module is a multidisciplinary module that integrates basic science to clinical concepts of common diseases of the endocrine, urinary & reproductive systems. The students will acquire comprehensive understanding of the module topics through their relation to the relevant clinical cases.

Credit Points: 13

Semester: Second

Duration: 8

General Module Aim

This module aims to provide the students with a comprehensive understanding of the normal structure and function of the endocrine, urinary & reproductive systems, impact of biochemical basis on the function, as well as the pathological features and pharmacotherapeutic approaches to treatment of common diseases. The module also incorporates clinical contribution from the departments of medicine, psychiatry and radiology.

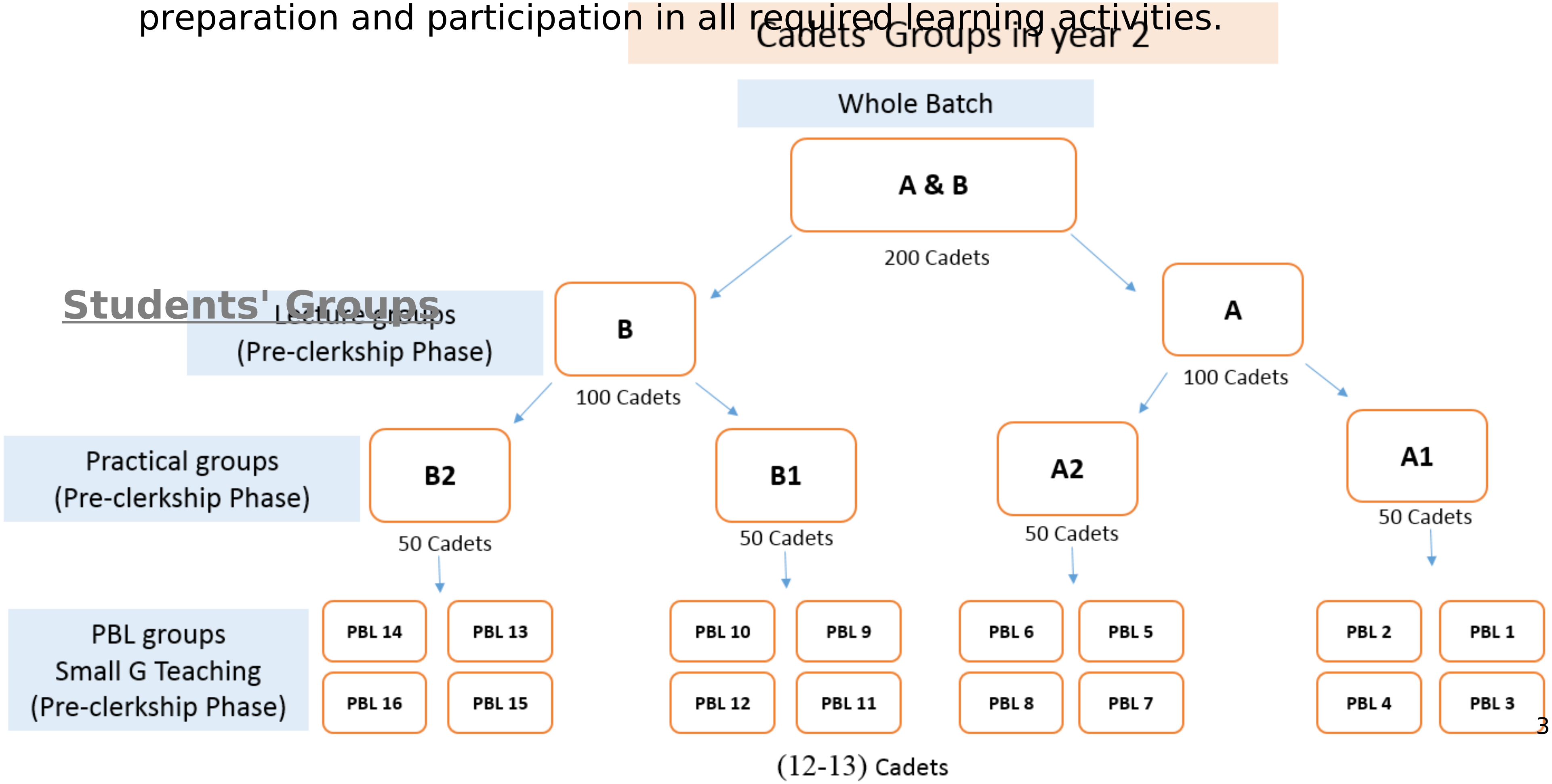
Module General Objectives

Having successfully completed this module, the students will be able to:

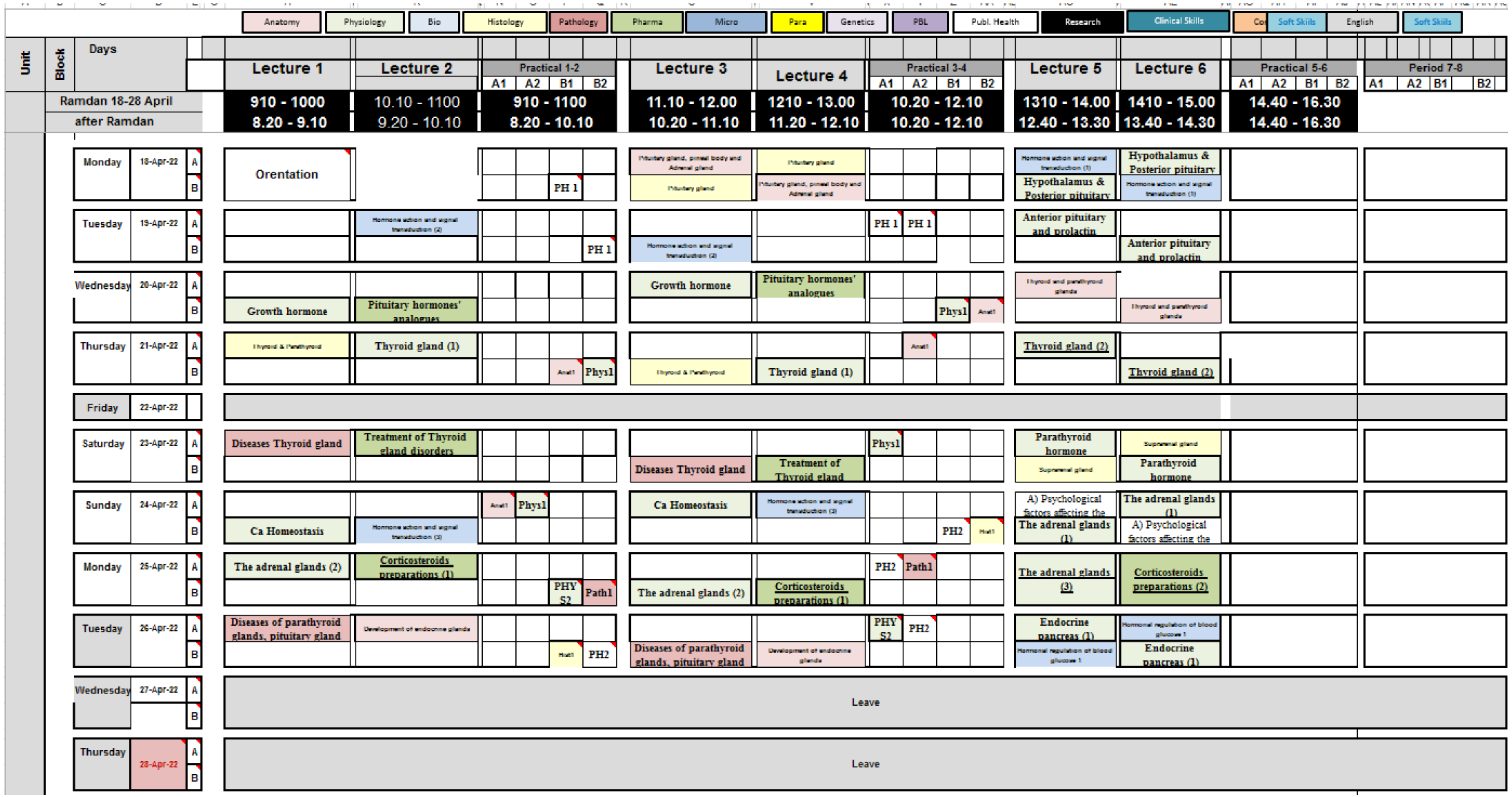
1. Describe the gross & microscopic structures of the endocrine, urinary & reproductive systems.
2. Describe the stages of development of the endocrine, urinary & reproductive systems as well as the possible congenital anomalies.
3. Integrate basic science information related to macroscopic, microscopic & biochemical structures with function to solve clinical problems.
4. Describe the basic pathological aspects & therapeutic agents of different diseases involving endocrine, urinary & reproductive systems.
5. Explain the concept of transplantation immunology & the background of immunosuppressive drugs.
6. Examine the macroscopic and microscopic criteria of the altered structures that are seen in various diseases of the endocrine, urinary & reproductive systems.
7. Estimate blood glucose concentration & serum creatinine.

8. Interpret the results of diabetic profile & renal function tests.
9. Practice simple basic clinical skills that enrich their future profession as health care providers.
10. Demonstrate professional behaviors towards students, faculty and other members of the medical education team including punctuality, reliability, preparation and participation in all required learning activities.

Students' Groups

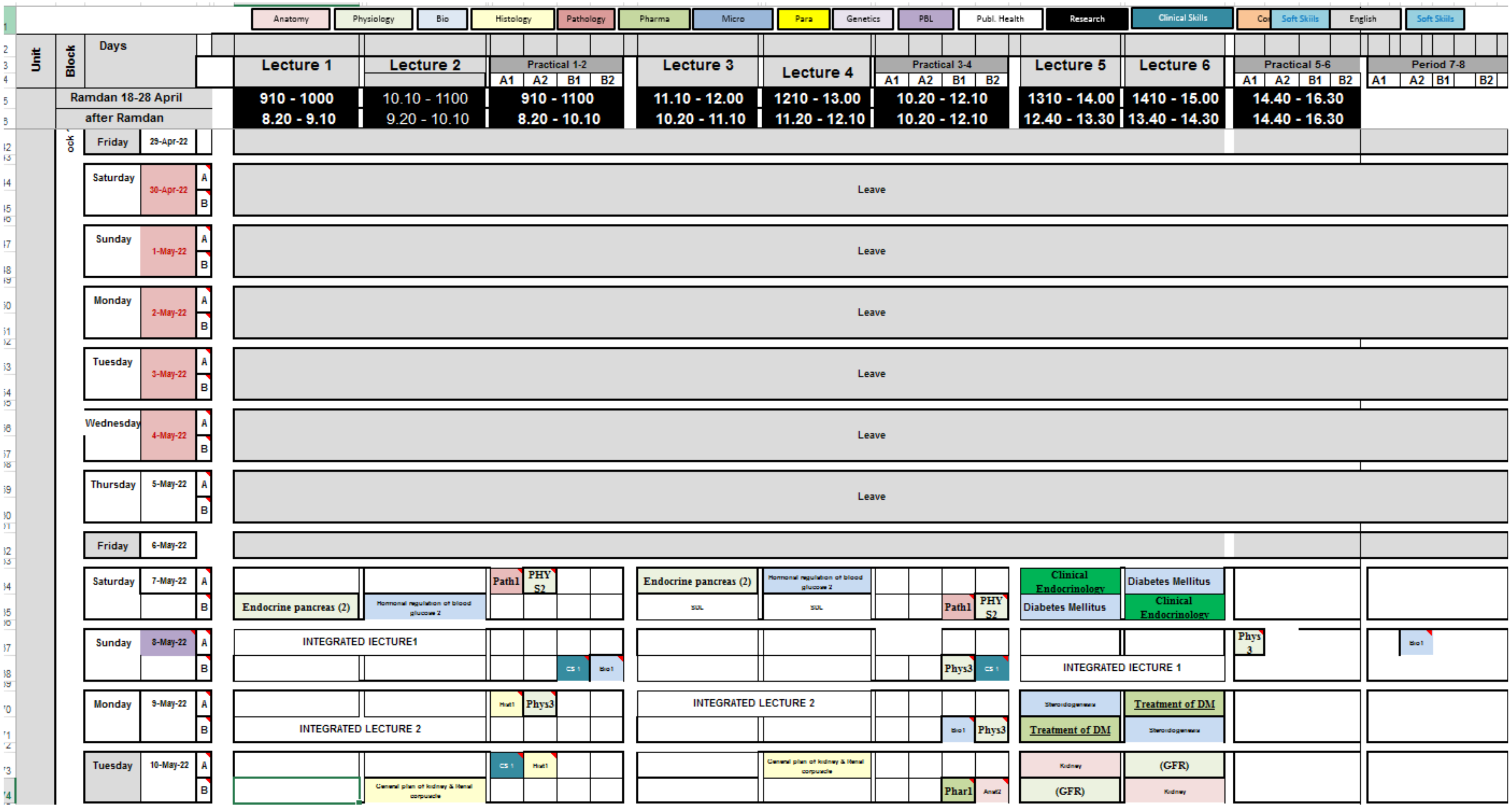


Module Timetable



Anatomy Physiology Bio Histology Pathology Pharma Micro Para Genetics PBL Publ. Health Research Clinical Skills Co Soft Skiils English Soft Skiils

Unit	Block	Days			Lecture 1	Lecture 2	Practical 1-2				Lecture 3	Lecture 4	Practical 3-4				Lecture 5	Lecture 6	Practical 5-6				Period 7-8			
							A1	A2	B1	B2			A1	A2	B1	B2			A1	A2	B1	B2	A1	A2	B1	B2
	Ramdan 18-28 April				910 - 1000	10.10 - 1100	910 - 1100				11.10 - 12.00	1210 - 13.00	10.20 - 12.10				1310 - 14.00	1410 - 15.00	14.40 - 16.30							
	after Ramdan				8.20 - 9.10	9.20 - 10.10	8.20 - 10.10				10.20 - 11.10	11.20 - 12.10	10.20 - 12.10				12.40 - 13.30	13.40 - 14.30	14.40 - 16.30							
		Monday	18-Apr-22	A	Orentation						Pituitary gland, pineal body and Adrenal gland	Pituitary gland					Hormone action and signal transduction (1)	Hypothalamus & Posterior pituitary								
				B					PH 1		Pituitary gland	Pituitary gland, pineal body and Adrenal gland					Hypothalamus & Posterior pituitary	Hormone action and signal transduction (1)								
		Tuesday	19-Apr-22	A		Hormone action and signal transduction (2)							PH 1	PH 1			Anterior pituitary and prolactin									
				B						PH 1	Hormone action and signal transduction (2)							Anterior pituitary and prolactin								
		Wednesday	20-Apr-22	A							Growth hormone	Pituitary hormones' analogues					Thyroid and parathyroid glands									
				B	Growth hormone	Pituitary hormones' analogues									Phys1	Anat1		Thyroid and parathyroid glands								
		Thursday	21-Apr-22	A	Thyroid & Parathyroid	Thyroid gland (1)								Anat1			Thyroid gland (2)									
				B					Anat1	Phys1	Thyroid & Parathyroid	Thyroid gland (1)						Thyroid gland (2)								
		Friday	22-Apr-22																							
		Saturday	23-Apr-22	A	Diseases Thyroid gland	Treatment of Thyroid gland disorders							Phys1				Parathyroid hormone	Suprarenal gland								
				B							Diseases Thyroid gland	Treatment of Thyroid gland					Suprarenal gland	Parathyroid hormone								
		Sunday	24-Apr-22	A			Anat1	Phys1			Ca Homeostasis	Hormone action and signal transduction (3)					A) Psychological factors affecting the	The adrenal glands (1)								
				B	Ca Homeostasis	Hormone action and signal transduction (3)									PH2	Hist1	The adrenal glands (1)	A) Psychological factors affecting the								
		Monday	25-Apr-22	A	The adrenal glands (2)	Corticosteroids preparations (1)							PH2	Path1			The adrenal glands (3)	Corticosteroids preparations (2)								
				B					PHY S2	Path1	The adrenal glands (2)	Corticosteroids preparations (1)														
		Tuesday	26-Apr-22	A	Diseases of parathyroid glands, pituitary gland	Development of endocrine glands							PHY S2	PH2			Endocrine pancreas (1)	Hormonal regulation of blood glucose 1								
				B					Hist1	PH2	Diseases of parathyroid glands, pituitary gland	Development of endocrine glands					Hormonal regulation of blood glucose 1	Endocrine pancreas (1)								
		Wednesday	27-Apr-22	A	Leave																					
				B																						
		Thursday	28-Apr-22	A	Leave																					
				B																						

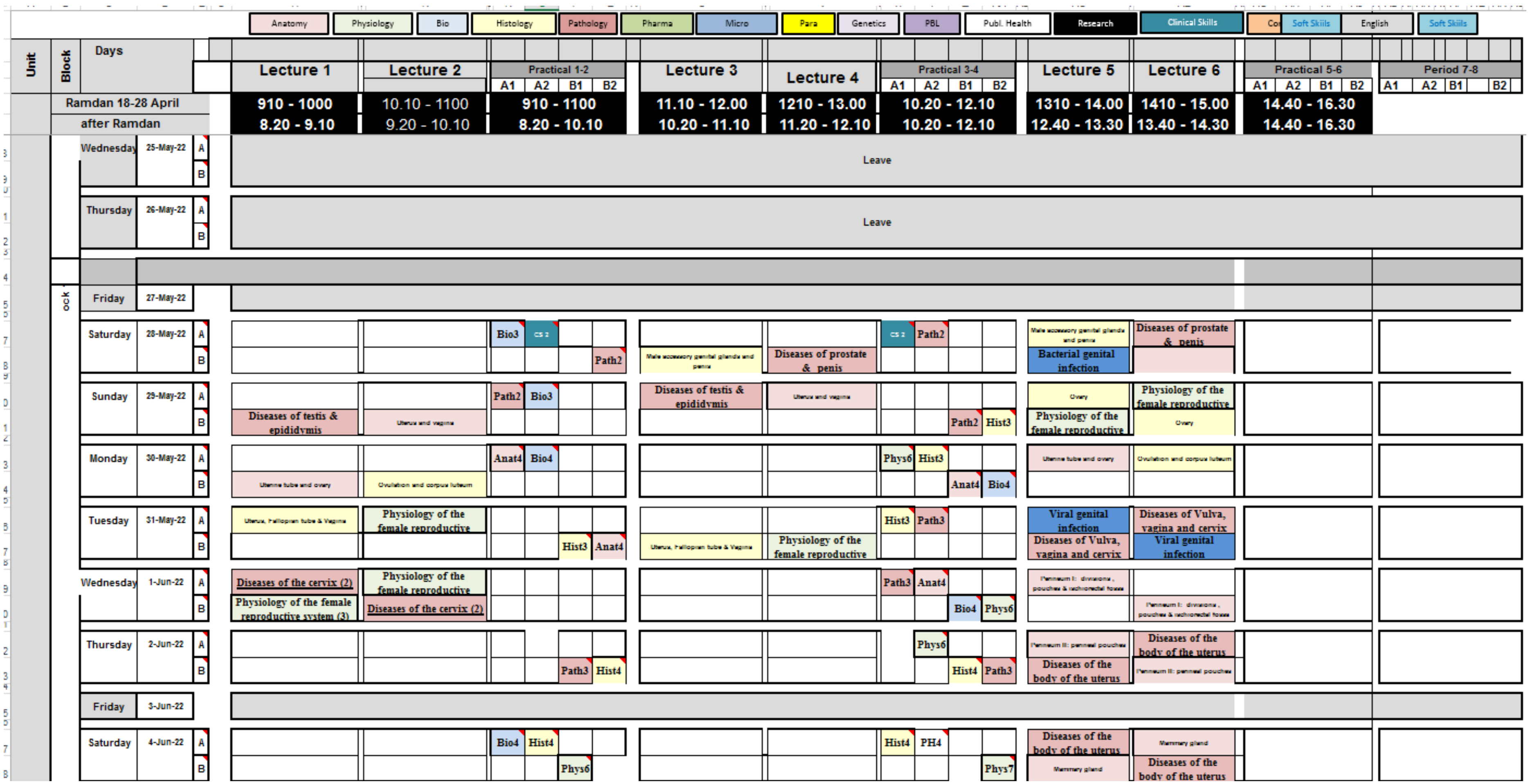


Anatomy | Physiology | Bio | Histology | Pathology | Pharma | Micro | Para | Genetics | PBL | Publ. Health | Research | Clinical Skills | Co | Soft Skills | English | Soft Skills

Unit	Block	Days			Lecture 1	Lecture 2	Practical 1-2				Lecture 3	Lecture 4	Practical 3-4				Lecture 5	Lecture 6	Practical 5-6				Period 7-8			
							A1	A2	B1	B2			A1	A2	B1	B2			A1	A2	B1	B2	A1	A2	B1	B2
		Ramdan 18-28 April			910 - 1000	10.10 - 1100	910 - 1100				11.10 - 12.00	1210 - 13.00	10.20 - 12.10				1310 - 14.00	1410 - 15.00	14.40 - 16.30							
		after Ramdan			8.20 - 9.10	9.20 - 10.10	8.20 - 10.10				10.20 - 11.10	11.20 - 12.10	10.20 - 12.10				12.40 - 13.30	13.40 - 14.30	14.40 - 16.30							
	ock	Friday	29-Apr-22																							
		Saturday	30-Apr-22	A	Leave																					
				B																						
		Sunday	1-May-22	A	Leave																					
				B																						
		Monday	2-May-22	A	Leave																					
				B																						
		Tuesday	3-May-22	A	Leave																					
				B																						
		Wednesday	4-May-22	A	Leave																					
				B																						
		Thursday	5-May-22	A	Leave																					
				B																						
		Friday	6-May-22																							
		Saturday	7-May-22	A			Path1	PHY S2			Endocrine pancreas (2)	Hormonal regulation of blood glucose 2					Clinical Endocrinology	Diabetes Mellitus								
				B	Endocrine pancreas (2)	Hormonal regulation of blood glucose 2					SDL	SDL			Path1	PHY S2	Diabetes Mellitus	Clinical Endocrinology								
		Sunday	8-May-22	A	INTEGRATED lECTURE1														Phys 3					Bio1		
				B					CS 1	Bio1					Phys3	CS 1	INTEGRATED lECTURE 1									
		Monday	9-May-22	A			Hist1	Phys3			INTEGRATED LECTURE 2						Steroidogenesis	Treatment of DM								
				B	INTEGRATED LECTURE 2										Bio1	Phys3	Treatment of DM	Steroidogenesis								
		Tuesday	10-May-22	A			CS 1	Hist1				General plan of kidney & Renal corpuscle					Kidney	(GFR)								
				B		General plan of kidney & Renal corpuscle									Phar1	Anat2	(GFR)	Kidney								

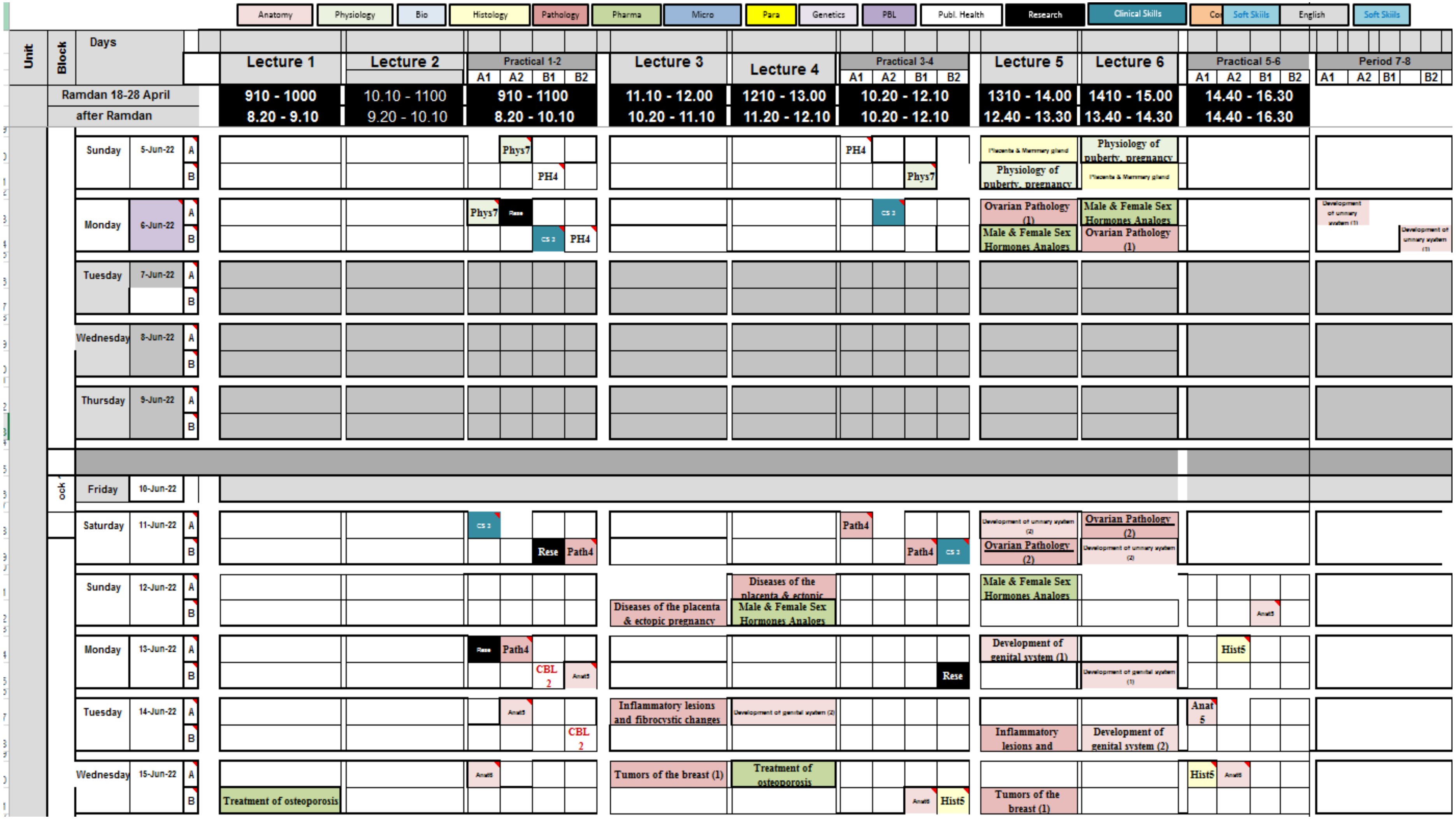
Anatomy | Physiology | Bio | Histology | Pathology | Pharma | Micro | Para | Genetics | PBL | Publ. Health | Research | Clinical Skills | Co | Soft Skiils | English | Soft Skiils

Unit	Block	Days			Lecture 1	Lecture 2	Practical 1-2				Lecture 3	Lecture 4	Practical 3-4				Lecture 5	Lecture 6	Practical 5-6				Period 7-8			
							A1	A2	B1	B2			A1	A2	B1	B2			A1	A2	B1	B2	A1	A2	B1	B2
	Ramdan 18-28 April				910 - 1000	10.10 - 1100	910 - 1100				11.10 - 12.00	1210 - 13.00	10.20 - 12.10				1310 - 14.00	1410 - 15.00	14.40 - 16.30							
	after Ramdan				8.20 - 9.10	9.20 - 10.10	8.20 - 10.10				10.20 - 11.10	11.20 - 12.10	10.20 - 12.10				12.40 - 13.30	13.40 - 14.30	14.40 - 16.30							
	ock	Friday	13-May-22																							
		Saturday	14-May-22	A			Phar2	Hist2			Pelvic nerves and vessels	Tubular Processing of the Glomerular					Ureter and Urinary bladder	Metabolism of other hexoses								
				B	Pelvic nerves and vessels	Tubular Processing of the Glomerular Filtrate									Hist2	Phar2	Metabolism of other hexoses	Ureter and Urinary bladder								
		Sunday	15-May-22	A			Anat2	Phar2			Glomerulonephritis and Nephrotic	Sodium & Glucose Handling					Obesity	PH Wrap Up								
				B	Glomerulonephritis and Nephrotic Syndrome	Sodium & Glucose Handling										Hist2	PH Wrap Up	Obesity								
		Monday	16-May-22	A			Hist2	Phys4			Hydrogen secretion, Bicarbonate	Nephretic Syndrome					Role of kidney in transport of amino									
				B	Hydrogen secretion, Bicarbonate	Nephretic Syndrome									Bio2	CBL1		Role of kidney in transport of amino								
		Tuesday	17-May-22	A			Phys4	CBL1			Renal mechanisms for concentration or						Diseases of tubules and interstitium &	Nephrotic and Nephritic								
				B	Renal mechanisms for concentration or dilution										Phys4	Bio2	Nephrotic and Nephritic	Diseases of tubules and interstitium &								
		Wednesday	18-May-22	A	Renal calculi and renal tumours	Urethra							CBL1	Phys5			Transplantation Immunology (1)	Physiology of micturition & the								
				B					CBL1	Phys4	Renal calculi and renal tumours	Urethra					Physiology of micturition & the	Transplantation Immunology (1)								
		Thursday	19-May-22	A			Bio2	Anat2			Role of kidney in acid-base balance	Transplantation Immunology (2)					Immunosuppressants	Congenital anomalies of the								
				B	Role of kidney in acid-base balance	Transplantation Immunology (2)									Anat3	Phys5	Congenital anomalies of the	Immunosuppressants								
		Friday	20-May-22																							
		Saturday	21-May-22	A			PH3	Bio2			Renal role in control of sodium and water	Tumours of urinary bladder and					Scrotum, testis, epididymis and spermatic cord	Testis								
				B	Renal role in control of sodium and water	Tumours of urinary bladder and hematuria									PH3	Anat3	Testis	Scrotum, testis, epididymis and spermatic cord								
		Sunday	22-May-22	A			Anat3	PH3			Physiology of the male reproductive system (1)	Prostatic gland, Seminal vesicle, vas deferens, and ejaculatory ducts														
				B						Bio3					CS 2	PH3	Physiology of the male reproductive	Prostatic gland, Seminal vesicle, vas deferens, and ejaculatory ducts								
		Monday	23-May-22	A			Phys5	Anat3			Male genital ducts	Physiology of the male reproductive					Bacterial genital infection									
				B					Bio3						Phys5	CS 2	Male genital ducts	Physiology of the male reproductive								
		Tuesday	24-May-22	A	Leave																					



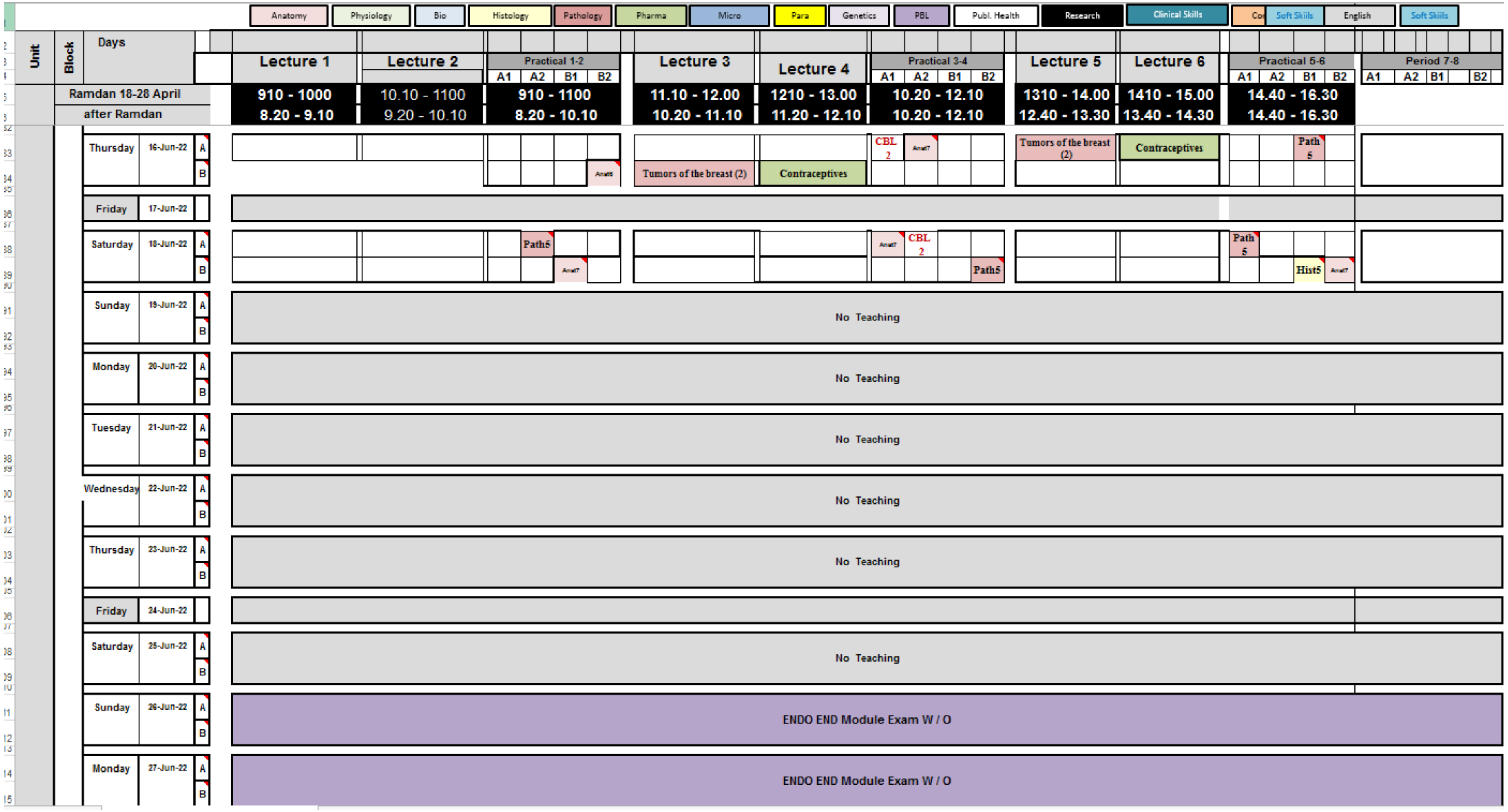
Anatomy | Physiology | Bio | Histology | Pathology | Pharma | Micro | Para | Genetics | PBL | Publ. Health | Research | Clinical Skills | Co Soft Skiils | English | Soft Skiils

Unit	Block	Days			Lecture 1	Lecture 2	Practical 1-2				Lecture 3	Lecture 4	Practical 3-4				Lecture 5	Lecture 6	Practical 5-6				Period 7-8			
							A1	A2	B1	B2			A1	A2	B1	B2			A1	A2	B1	B2	A1	A2	B1	B2
		Ramdan 18-28 April			910 - 1000	10.10 - 1100	910 - 1100				11.10 - 12.00	1210 - 13.00	10.20 - 12.10				1310 - 14.00	1410 - 15.00	14.40 - 16.30							
		after Ramdan			8.20 - 9.10	9.20 - 10.10	8.20 - 10.10				10.20 - 11.10	11.20 - 12.10	10.20 - 12.10				12.40 - 13.30	13.40 - 14.30	14.40 - 16.30							
		Wednesday	25-May-22	A	Leave																					
				B																						
		Thursday	26-May-22	A	Leave																					
				B																						
	ock	Friday	27-May-22																							
		Saturday	28-May-22	A			Bio3	CS 2					CS 2	Path2			Male accessory genital glands and penis	Diseases of prostate & penis								
				B						Path2	Male accessory genital glands and penis	Diseases of prostate & penis					Bacterial genital infection									
		Sunday	29-May-22	A			Path2	Bio3			Diseases of testis & epididymis	Uterus and vagina					Ovary	Physiology of the female reproductive								
				B	Diseases of testis & epididymis	Uterus and vagina									Path2	Hist3	Physiology of the female reproductive	Ovary								
		Monday	30-May-22	A			Anat4	Bio4					Phys6	Hist3			Uterine tube and ovary	Ovulation and corpus luteum								
				B	Uterine tube and ovary	Ovulation and corpus luteum									Anat4	Bio4										
		Tuesday	31-May-22	A	Uterus, Fallopian tube & Vagina	Physiology of the female reproductive							Hist3	Path3			Viral genital infection	Diseases of Vulva, vagina and cervix								
				B					Hist3	Anat4	Uterus, Fallopian tube & Vagina	Physiology of the female reproductive					Diseases of Vulva, vagina and cervix	Viral genital infection								
		Wednesday	1-Jun-22	A	Diseases of the cervix (2)	Physiology of the female reproductive							Path3	Anat4			Perineum I: divisions , pouches & ischiorectal fossa									
				B	Physiology of the female reproductive system (3)	Diseases of the cervix (2)									Bio4	Phys6		Perineum I: divisions , pouches & ischiorectal fossa								
		Thursday	2-Jun-22	A										Phys6			Perineum II: perineal pouches	Diseases of the body of the uterus								
				B					Path3	Hist4					Hist4	Path3	Diseases of the body of the uterus	Perineum II: perineal pouches								
		Friday	3-Jun-22																							
		Saturday	4-Jun-22	A			Bio4	Hist4					Hist4	PH4			Diseases of the body of the uterus	Mammary gland								
				B					Phys6							Phys7	Mammary gland	Diseases of the body of the uterus								



Anatomy | Physiology | Bio | Histology | Pathology | Pharma | Micro | Para | Genetics | PBL | Publ. Health | Research | Clinical Skills | Co | Soft Skiils | English | Soft Skiils

Days			Lecture 1	Lecture 2	Practical 1-2				Lecture 3	Lecture 4	Practical 3-4				Lecture 5	Lecture 6	Practical 5-6				Period 7-8			
					A1	A2	B1	B2			A1	A2	B1	B2			A1	A2	B1	B2	A1	A2	B1	B2
Ramdan 18-28 April			910 - 1000	10.10 - 1100	910 - 1100				11.10 - 12.00	1210 - 13.00	10.20 - 12.10				1310 - 14.00	1410 - 15.00	14.40 - 16.30							
after Ramdan			8.20 - 9.10	9.20 - 10.10	8.20 - 10.10				10.20 - 11.10	11.20 - 12.10	10.20 - 12.10				12.40 - 13.30	13.40 - 14.30	14.40 - 16.30							
Sunday	5-Jun-22	A				Phys7					PH4				Placenta & Mammary gland	Physiology of puberty, pregnancy								
		B					PH4						Phys7		Physiology of puberty, pregnancy	Placenta & Mammary gland								
Monday	6-Jun-22	A			Phys7	Rese						CS 3			Ovarian Pathology (1)	Male & Female Sex Hormones Analogs					Development of urinary system (1)			
		B					CS 3	PH4							Male & Female Sex Hormones Analogs	Ovarian Pathology (1)								Development of urinary system (1)
Tuesday	7-Jun-22	A																						
		B																						
Wednesday	8-Jun-22	A																						
		B																						
Thursday	9-Jun-22	A																						
		B																						
Friday	10-Jun-22																							
Saturday	11-Jun-22	A			CS 3						Path4				Development of urinary system (2)	Ovarian Pathology (2)								
		B					Rese	Path4					Path4	CS 3	Ovarian Pathology (2)	Development of urinary system (2)								
Sunday	12-Jun-22	A								Diseases of the placenta & ectopic					Male & Female Sex Hormones Analogs									
		B							Diseases of the placenta & ectopic pregnancy	Male & Female Sex Hormones Analogs									Anat5					
Monday	13-Jun-22	A			Rese	Path4									Development of genital system (1)			Hist5						
		B					CBL 2	Anat5						Rese		Development of genital system (1)								
Tuesday	14-Jun-22	A				Anat5			Inflammatory lesions and fibrocystic changes	Development of genital system (2)							Anat 5							
		B						CBL 2							Inflammatory lesions and	Development of genital system (2)								
Wednesday	15-Jun-22	A			Anat6				Tumors of the breast (1)	Treatment of osteoporosis							Hist5	Anat6						
		B	Treatment of osteoporosis										Anat6	Hist5	Tumors of the breast (1)									



Anatomy | Physiology | Bio | Histology | Pathology | Pharma | Micro | Para | Genetics | PBL | Publ. Health | Research | Clinical Skills | Co | Soft Skiils | English | Soft Skiils

Unit	Block	Days			Lecture 1	Lecture 2	Practical 1-2				Lecture 3	Lecture 4	Practical 3-4				Lecture 5	Lecture 6	Practical 5-6				Period 7-8			
							A1	A2	B1	B2			A1	A2	B1	B2			A1	A2	B1	B2	A1	A2	B1	B2
	Ramdan 18-28 April				910 - 1000	10.10 - 1100	910 - 1100				11.10 - 12.00	1210 - 13.00	10.20 - 12.10				1310 - 14.00	1410 - 15.00	14.40 - 16.30							
	after Ramdan				8.20 - 9.10	9.20 - 10.10	8.20 - 10.10				10.20 - 11.10	11.20 - 12.10	10.20 - 12.10				12.40 - 13.30	13.40 - 14.30	14.40 - 16.30							
		Thursday	16-Jun-22	A									CBL 2	Anat7			Tumors of the breast (2)	Contraceptives			Path 5					
				B						Anat6	Tumors of the breast (2)	Contraceptives														
		Friday	17-Jun-22																							
		Saturday	18-Jun-22	A				Path5					Anat7	CBL 2					Path 5							
				B					Anat7							Path5					Hist5	Anat7				
		Sunday	19-Jun-22	A	No Teaching																					
				B																						
		Monday	20-Jun-22	A	No Teaching																					
				B																						
		Tuesday	21-Jun-22	A	No Teaching																					
				B																						
		Wednesday	22-Jun-22	A	No Teaching																					
				B																						
		Thursday	23-Jun-22	A	No Teaching																					
				B																						
		Friday	24-Jun-22																							
		Saturday	25-Jun-22	A	No Teaching																					
				B																						
		Sunday	26-Jun-22	A	ENDO END Module Exam W / O																					
				B																						
		Monday	27-Jun-22	A	ENDO END Module Exam W / O																					
				B																						

* The dates at this timetable eligible for change, please check the daily timetable on the screens during your self-study time for the next day.

Summary of the Module Learning

Endocrine & Genito-urinary Module EGU 208

Part (1): Endocrine System

Theme	№	Title	ILOs	Discipline	Teaching Method

Pituitary Gland	**1**	**Pituitary gland, pineal body and Adrenal gland**	• Describe the site, weight, dimensions, lobes & relations of the pituitary gland. • Describe the blood supply of pituitary gland. • Correlate the anatomical relations of the pituitary gland with the clinical effects of pituitary tumors. • Describe the site, size & function of the pineal body. • Describe the site, shape, sheath, relations, nerve & arterial supply, venous & lymphatic drainage of the suprarenal gland.	**Anatomy**	**Lecture**
	2	**Pituitary gland**	• Describe the histological division of the pituitary gland. • Describe the LM and EM structure of the cells of pituitary gland. • Correlate the structure of hormone secreting cells to their function. • Mention how the endocrine glands affect each other. • Interpret the changes in pituitary gland structure in different diseases.	**Histology**	**Lecture**
	3	**Hormone action and signal transduction (1)**	• Compare between different types of hormones. • Explain the mechanism of action of lipophilic hormones. • Explain mechanism of action of hormones using cAMP as second messenger. • Correlate disruption in hormone signaling to clinical disorders.	**Biochemistry**	**Lecture**
	4	**Hormone action and signal transduction (2)**	• Interpret role of calcium as a mediator of hormone action. • Explain mechanism of action of hormones using cGMP as second messenger. • Discuss mechanism of action of hormones	**Biochemistry**	**Lecture**

			acting on tyrosine kinases.		
	5	**Hypothalamus & Posterior pituitary**	• Describe the neural and vascular connections between the hypothalamus and pituitary gland. • Name the structures in which oxytocin and vasopressin are synthesized. • Define neuroendocrine hormones (neurosecretion) and give example. • Differentiate between neurosecretion and neurotransmission. • Summarize functional relationships between the hypothalamus and the pituitary gland. • List the hormones that are released from the posterior pituitary gland. • Summarize the function and regulation of vasopressin hormone. • Summarize the functions and regulation of oxytocin hormone. • Correlate the hypothalamic secretion to the anterior pituitary gland functions and secretions.	**Physiology**	**Lecture**
	6	**Anterior pituitary and prolactin hormone**	• List the anterior pituitary tropic hormones. • List the anterior pituitary hormones. • Illustrate the hypothalamo-portal circulation. • Describe the feedback control of endocrine secretion. • Summarize the negative feedback controls: long and short loop responses. • Describe the main effects of anterior pituitary hormones. • Summarize the functions and regulation of Prolactin.	**Physiology**	**Lecture**
	7	**Growth hormone**	• List the hormones that affect growth. • Summarize the functions of growth hormone.	**Physiology**	**Lecture**

			- Describe the role of somatomedin. - Summarize growth hormone regulation. - List the functions of GHRF and GHIF. - Differentiate between abnormal growth hormone secretion before and after puberty.		
	8	**Pituitary gland**	- Solve problems. - Integrate the basic physiological facts with clinical data. - Apply basic physiological facts in understanding pharmacology.	**Physiology**	**Tutorial**
	9	**Pituitary hormones' analogues**	- Classify the pituitary hormones analogues. - Identify vasopressin, Desmopressin, Octreotide & Leuprolide therapeutic uses. - Identify the drugs that modulate the prolactin level.	**Pharmacology**	**Lecture**
Thyroid & Parathyro	**10**	**Thyroid and parathyroid glands**	- Identify position& capsule of gland - Recognize the relation of lobes and isthmus - List the blood supply - Link the relations of thyroid gland with its applied anatomy - Describe the position, relations, blood supply of parathyroid gland	**Anatomy**	**Lecture**

id Glands	**11**	**Endocrine glands**	• Demonstrate the lobes and isthmus of the thyroid gland. • Identify the relations of lobes & isthmus of the thyroid gland. • Identify the arterial supply and venous drainage of the thyroid gland. • Identify the anomalies of the thyroid gland development • Identify the site and the relations of the pituitary gland. • Identify the site and the relations of the adrenal gland.	**Anatomy**	**Practical**
	12	**Thyroid & Parathyroid**	• Describe the microscopic structure of the thyroid and parathyroid glands. • Describe the LM and EM of the thyrocytes and chief cells. • Correlate the structure of the thyrocytes to their function. • Interpret the changes in thyroid gland structure in different diseases.	**Histology**	**Lecture**
	13	**Thyroid gland (1)**	• List the hormones that are secreted from the thyroid gland. • Illustrate the role of the hypothalamus and pituitary in regulating thyroid function. • Describe the pituitary-thyroid axis. • Summarize effects of the thyroid hormones in homeostasis and development.	**Physiology**	**Lecture**
	14	**Thyroid gland (2)**	• Differentiate between abnormal thyroxine hormone secretion before and after puberty. • Explain the tachycardia associated with increased secretion.	**Physiology**	**Lecture**
	15	**Diseases Thyroid gland**	• Describe the pathological features of different types of thyroiditis.	**Pathology**	**Lecture**

			• Discuss the pathology of simple and toxic Goiter. • Enumerate different types of follicular adenoma, and list their complications. • Demonstrate the pathological features, prognosis and spread of different types of thyroid carcinoma.		
	16	**Diseases of endocrine glands**	• Describe the gross picture of: a) Nodular goiter b) Thyroid adenoma c) Papillary thyroid carcinoma • Describe microscopic picture of: a) Simple nodular goiter. b) Toxic goiter (Grave's disease). c) Thyroid adenoma. d) Papillary thyroid carcinoma.	**Pathology**	**Practical**
	17	**Treatment of Thyroid gland disorders**	• List the drugs used in the treatment of hypothyroidism. • Compare between Liothyronine& Levothyroxine. • Outline a plane of therapeutic management of myxoedema coma. • List the drugs used in the treatment of hyperthyroidism. • Describe the mechanism of action of the antithyroid drugs. • Explain the adverse effects of antithyroid drugs. • Outline a plane of therapeutic managment of Thyroid Crisis (storm).	**Pharmacology**	**Lecture**
	18	**Parathyroid hormone**	• List the target organs for parathyroid hormone. • Summarize its effects on the target organs. • Explain how PTH secretion is regulated.	**Physiology**	**Lecture**

			• Differentiate between the consequences of hypo and hyper secretion of PTH.		
	19	**Ca Homeostasis**	• Mention the normal total and ionized calcium levels. • List its physiological significances. • List the hormones involved in its regulation. • List the functions of calcitonin. • Describe its regulation. • Compare between the effects and mechanism of actions of each one. • Summarize the mechanism of calcium homeostasis. • Compare between latent and manifested tetany.	**Physiology**	**Lecture**
	20	**Thyroid & parathyroid glands**	• Brief view on: 1) List the physiological actions of thyroid hormones. 2) Mention the effects of hyperthyroidism. 3) Identify the diagnostic features seen in a patient with myxedema. 4) List the manifestations of thyroid hormone deficiency since birth (cretinsim). 5) Enumerate the target organs for parathyroid hormone 6) List the manifestations of hyperparathyroidism. 7) Compare manifest and latent tetany. • MCQs. • Clinical cases for discussion.	**Physiology**	**Tutorial**

Suprarenal Gland	21	**Suprarenal Cortex**	- Mention the parts of the suprarenal gland. - Describe the LM and EM of the cells in suprarenal cortex. - Correlate the structure of the suprarenal gland cells to their function. - Differentiate between the different layers of suprarenal cortex. - Interpret the changes in suprarenal gland structure in different diseases.	**Histology**	**Lecture**
	22	**Endocrine glands**	- Identify H&E sections in Pituitary gland. - Identify H&E sections in Thyroid and parathyroid glands. - Identify H&E sections in Suprarenal gland. - Identify H&E sections in Pancreas. - Identify the electron microscopic structure of steroid secreting cells.	**Histology**	**Practical**
	23	**Steroidogenesis**	- Discuss different types of steroid hormones regarding sites of synthesis, secretion, transport and biological effects. - Illustrate steps of different pathways of biosynthesis of steroid hormones. - Determine the mechanism of action of steroid hormones. - Outline the synthesis of steroid hormones in testes and ovary. - Discuss Congenital adrenal hyperplasias and polycysticovary.	**Biochemistry**	**Lecture**
	24	**The adrenal glands (1)**	- Name the layers of the adrenal gland and the major hormone products of each. - Understand the cellular mechanism of action of adreno-cortical hormones. - Identify the physiological actions of	**Physiology**	**Lecture**

			aldosterone hormone and its target organs. • List the factors that regulate secretion of aldosterone. • Identify the causes and consequences of over-secretion of mineralocorticoids.		
	25	**The adrenal glands (2)**	• Identify the physiological actions of cortisol hormone. • Explain the diabetogenic effect of cortisol. • Explain the control system for cortisol. Describe the factors that regulate cortisol secretion. • List the hormones that are released during stress. • Identify the manifestations of over-secretion of glucocorticoids.	**Physiology**	**Lecture**
	26	**The adrenal glands (3)**	• Identify the effects of excess secretion of adrenal androgens. • Identify the causes and manifestations of primary adrenocortical insufficiency. • Enumerate a disease state caused by over-secretion of adrenal catecholamines and how to diagnose this disease.	**Physiology**	**Lecture**
	27	**Corticosteroids preparations (1)**	• Classify the corticosteroid preparations. • Describe the mechanism of action of glucocorticoids. • Identify the pharmacological actions of glucocorticoids. • Relate the therapeutic uses of glucocorticoids to their clinical applications.	**Pharmacology**	**Lecture**
	28	**Corticosteroids preparations (2)**	• Explain the precautions & contraindications to glucocorticoids. • Identify the mineralocorticoids & ACTH preparations.	**Pharmacology**	**Lecture**

			- Discuss the role of Inhibitors of adrenocorticoid biosynthesis.		
	29	**Pharmacological tips in endocrinal diseases and emergencies**	- Select appropriate drug treatment in endocrinal emergencies. - Recognize precautions for drug preparations used in the treatment of endocrinal diseases. - Identify prescription writing of drugs used in the treatment of endocrinal diseases.	**Pharmacology**	**Practical**
	30	**Diseases of parathyroid glands, pituitary gland and adrenal glands**	- Determine the etiology and complications of primary and secondary hyperparathyroidism. - Describe the pathology of pituitary adenoma and craniopharyngeoma with their complications. - Classify tumours of adrenal gland.	**Pathology**	**Lecture**
Endocrine Pancreas	**31**	**Development of endocrine glands**	- Explain the development of pituitary, thyroid, parathyroid and supra renal glands. - Predict the causes and features of the congenital anomalies of pituitary, thyroid, parathyroid and suprarenal gland.	**Anatomy**	**Lecture**
	32	**Endocrine pancreas (1)**	- Summarize the hormones that affect the plasma glucose concentration with their mechanism of actions. - Summarize insulin receptors functions and regulation. - List the insulin functions. - Describe the types of glucose transporters found in the body and the function of each. - List the major factors that affect the secretion of insulin. - List the anti-insulin hormone.	**Physiology**	**Lecture**
	33	**Endocrine pancreas (2)**	- List the physiological effects of glucagon. - Describe the factors that regulate glucagon secretion.	**Physiology**	**Lecture**

			• Describe the physiologic effects of somatostatin in the pancreas. • Compare between the mechanisms by which thyroid hormones, adrenal glucocorticoids, catecholamines, and growth hormone affect carbohydrate metabolism. • Explain the consequences of deficient insulin release.		
	34	**Adrenal gland & Endocrine Pancreas**	• Summarize factors that control aldosterone release. • Mention the effects of hyper-aldosteronism (Conn's disease). • List physiological actions of glucocorticoids and explain the role of cortisol in glucose homeostasis. • Describe the control of cortisol secretion. • Identify the diagnostic features seen in a patient with Cushing syndrome. • Enumerate the manifestations of Addison's disease. • Summarize the hormones affecting plasma glucose concentration with their mechanism of actions. • List the anti-insulin hormones. • Apply knowledge to solve clinical problems.	**Physiology**	**Tutorial**
	35	**Glucose homeostasis**	• Outline sources of blood glucose. • Outline hormonal regulation of metabolic pathways. • Categorize the metabolic effects and regulators of insulin and glucagon release. • Interpret different regulatory mechanisms of the main metabolic pathways in different organs in the fed- fast state.	**Biochemistry**	**Lecture**

	36	**Diabetes Mellitus**	• Interpret metabolic changes of type 1 DM. • Interpret metabolic changes of type 2 DM. • Demonstrate diagnostic parameters of DM. • Describe biochemical basis of diabetic complications.	**Biochemistry**	**Lecture**
	37	**Diabetic Profile**	• Recognize the medical importance of diabetic profile. • Interpret the results of diabetic profile. • Estimate blood glucose concentration by glucose oxidase reaction. • Interpret the results in relation to possible medical problems.	**Biochemistry**	**Practical**
	38	**Clinical Endocrinology**	• Define terms in endocrine system. • Describe function and control of endocrine system. • List the common symptoms and signs attributed to endocrine system disorder.	**Internal Medicine**	**Lecture**
	39	**Metabolism of other hexoses**	• Identify different metabolic pathways of fructose metabolism. • Relate abnormal fructose metabolism to clinical disorders. • Correlate abnormal galactose metabolism to clinical disorders.	**Biochemistry**	**Lecture**
	40	**Diabetes Mellitus (1)**	• Describe the microscopic structure of the cells in the islets of Langerhans. • Mention the paracrine regulatory effect between the cells in islets of Langerhans. • Explain biochemical basis of diabetes mellitus and its symptoms. • Diagnosis of diabetes mellitus. • Classification of diabetes mellitus. • Screening for type 2 diabetes. • Prevention of type 2 diabetes.	**- Histology** **- Biochemistry** **- Pathology** **- Pharmacology** **- Internal medicine**	**Integrated Lecture** **(2 hours)**

			• List glycemic goals for patients with diabetes. • List causes of hypoglycemia. • Describe the pathological features of pancreas in diabetes mellitus and its complications. • Identify Routes of administration of Insulin Preparations. • Compare the pharmacokinetic profiles of common Insulin Preparations.		
	41	**Diabetes Mellitus (2)**	• Classify the antidiabetic drugs used in the treatment of type 2 diabetes mellitus. • Explain the different mechanisms of action of the antidiabetic drugs used in the treatment of type 2 diabetes mellitus. • Identify the adverse effects of the antidiabetic drugs. • Management of diabetes mellitus.	**- Pharmacology** **- Internal medicine**	**Integrated Lecture (2 hours)**
	42	**Treatment of DM**	• Identify the mechanism of action of Insulin. • Explain the adverse effects of insulin preparations. • Outline a plane of therapeutic drug management of emergency cases in diabetes mellitus. • Identify the preparations of the antidiabetic drugs. • Explain the drug - drug interactions of the antidiabetic drugs. • Compare between incretin mimetics & enhancers.	**Pharmacology**	**Lecture**
	43	**Treatment of DM**	• Outline a plane of therapeutic management of diabetes mellitus. • Select the appropriate regimen of insulin preparations and / or antidiabetic drugs in the treatment of type 1&2 DM.	**Pharmacology**	**Practical**

			• Identify the most important adverse effects and drug interactions of the drugs used in treatment of diabetes mellitus.		
	44	**Biochemical basis of Obesity & weight regulation**	• Interpret the biochemical basis of body weight regulation. • Enumerate the causes of obesity. • Outline effect of obesity.	**Biochemistry**	**Lecture**
	45	**Psychological factors affecting the patients' adherence in endocrinal disorders**	• Understand the difference between compliance, adherence & concordance and factors affecting them. • Describe different models of doctor- patient relationship. • Recognize psychological factors affecting the patient's compliance.	**Psychiatry**	**Lecture**
		Psychiatric Disorders in Endocrinal Diseases	• Recognize the psychiatric/ psychological symptoms and signs associated with different endocrinal disorders. • Interpret the mechanism of psychiatric disorders interaction with endocrinal disorders. • Design the relevant investigations & treatment in the context of the clinical picture. • Demonstrate familiarity with the application of the multidisciplinary team in psychiatric disorders associated with endocrinal diseases.		

Part (2): Urinary System

№		ILOs	Discipline	Teaching
47	**Kidney**	• Describe the site, size, shape, coverings, relations and surface anatomy of right and left kidneys. • Identify arrangement of structures in the hilum of kidney. • Discuss blood supply, renal vascular segments, lymphatic drainage and nerve supply of the kidney.	**Anatomy**	**Lecture**
48	**Urinary System**	• Identify the urinary structures: ➢ Kidneys, ureters, urinary bladder and urethra (male and female). • Demonstrate the anatomy of the kidney: as regards: ➢ Anatomical site. ➢ Hilum (arrangement of structures). ➢ Renal pelvis. ➢ Anterior and posterior relations of the right and left kidney. ➢ Blood supply of the kidney. • Demonstrate the anatomy of the ureter: as regards: ➢ Dimensions, course and parts of the ureter. ➢ Relations of the ureter. • Demonstrate the anatomy of the urinary bladder: as regards: ➢ Site, shape, and surfaces of the urinary bladder. ➢ Relations of the urinary bladder. • Demonstrate the male urethra (length and different parts). • Demonstrate the female urethra.	**Anatomy**	**Practical**
49	**General plan of kidney & Renal corpuscle**	• Describe the general structure of the kidney. • List the components of the urinephrous tubules.	**Histology**	**Lecture**

		• Describe the histological structure of Bowman's capsule. • Describe the structure and type of the glomerular capillaries. • Describe the components of the glomerular basement membrane. • List the components of the blood renal barrier. • Interpret the defective microscopic structure of glomerular basement membrane in diseases.		
50	**Mesangium & Renal tubules**	• Describe the microscopic structure of intraglomerular mesangial cells. • Describe and correlate the microscopic structure of the convoluted tubules. • Compare the microscopic structure of the convoluted tubules. • Describe and correlate the microscopic structure of the collecting tubules to its function.	**Histology**	**Lecture**
51	**Glomerular filtration Rate (GFR)**	• Define the basic renal processes that result in urine formation. • Describe how glomerular filtrate is formed and the composition of this filtrate. • Describe the structural components of the filtration barrier and the main determinants of solute filterability. • Define glomerular filtration rate (GFR) and state its normal value. • State the forces involved in glomerular filtration and their normal values. • Analyze GFR results. • List the direct determinants of GFR and factors influencing them.	**Physiology**	**Lecture**
52	**Renal Blood Flow (RBF)**	• State the normal renal blood flow (RBF). • Discuss the regional blood flow and O2 consumption by the kidney.	**Physiology**	**Lecture**

		• Define the filtration fraction (FF). • Explain autoregulation of RBF and GFR and the blood pressure range at which this is effective. • Compare the different intrinsic mechanisms that regulate RBF and GFR. • Discuss the nervous (sympathetic) control of RBF and GFR. • Distinguish between the hormonal and paracrine control of RBF and GFR.		
53	**Juxtaglomerular apparatus, Ureter & Urinary bladder**	• Enumerate parts of the juxtaglomerular apparatus. • Describe the microscopic structure of the macula densa and JG cells. • Interpret the defective structure in renal tubules in various diseases. • Describe the microscopic structure of the ureter. • Describe the microscopic structure of the urinary bladder. • Describe the microscopic structure of the facet cell. • Interpret the defective structure in urinary bladder in various diseases.	**Histology**	**Lecture**
54	**Urinary System**	• Identify the light microscopic structure of different parts of the urinary system (Kidney, ureter and urinary bladder). • Identify the electron microscopic structure of blood renal barrier, proximal and distal convoluted tubules.	**Histology**	**Practical**
55	**Renal clearance**	• Define the term "renal plasma clearance". • Explain the importance of measurement of plasma clearance. • List data required for clearance calculation. • State what substances are used to measure GFR and RPF and the criteria that must be met for	**Physiology**	**Lecture**

		each. • Describe the clinical significance of GFR measurement. • Predict whether a substance undergoes net reabsorption or net secretion by comparison of its clearance to that of inulin.		
56	**GFR & Clearance**	• Predict whether a substance undergoes net reabsorption or net secretion by comparison of its clearance to that of inulin. • Calculate rates of net tubular reabsorption or secretion of a substance, given the filtered and excreted amounts of the substance. • Apply clearance principle as an estimator of GFR and RBF. • Explain factors affecting glomerular filtration rate and renal blood flow. • Solve problems concerning the general functions of the kidneys and their role in homeostasis.	**Physiology**	**Tutorial**
57	**Tubular Processing of the Glomerular Filtrate**	• Define the renal processes: Tubular reabsorption, secretion and excretion. • List mechanisms of tubular transport. • Explain factors affecting tubular reabsorption. • Define transport maximum (Tm). • Define renal threshold of a substance. • Describe the absoroption by peritubular capillary.	**Physiology**	**Lecture**
58	**Sodium & Glucose Handling**	• Define sites of Na+ reabsorption. • Describe Na+ reabsorption by different segments of renal tubule. • Describe glomerulo–tubular balance. • List manifestations of Bartter syndrome. • Describe glucose reabsorption by renal tubule. • Explain the importance of glucose titration curve.	**Physiology**	**Lecture**
59	**Role of kidney in transport**	• Describe the role of kidney in amino acid	**Biochemis**	**Lecture**

	of amino acids & some metabolic disorders affecting kidney	transport. • Elaborate the biochemical aspects of Hartnup disease and other inborn error of renal amino acids transport. • Interpret the biochemical bases of Cystinuria and Cystinosis. • Explain the Causes of Hyperoxaluria.	**try**	
60	**Physical & chemical properties of urine**	• Define urine analysis. • Recognize the importance of urine analysis in medicine. • Recognize methods of collection of urine samples and their importance. • Identify the chemical composition of urine. • Interpret the findings obtained from the physical examination of urine. • Perform specific chemical tests on urine samples to detect albumin, glucose, acetone and bile salts as abnormal urine constituents. • Report performed tests in a complete form. • Interpret results obtained from chemical analysis. • Correlate abnormal results with common diseases.	**Biochemistry**	**Practical**
61	**Hydrogen secretion, Bicarbonate reabsorption & secretion of K+**	• Define sites of H+ secretion. • Describe mechanism of H+ secretion. • Define sites of HCO3- reabsorption. • Describe how the kidney can regenerate new HCO3-. • Explain control of K+ secretion by the renal tubule.	**Physiology**	**Lecture**
62	**Renal mechanisms for concentration or dilution of the urine**	• Explain the role of loop of Henle of juxta medullary nephrons in creating an osmotic gradient in the medullary interstitium (the countercurrent multiplication system). • Discuss the role of vasa recta as countercurrent exchanger in maintaining the hyperosmolarity of	**Physiology**	**Lecture**

		the medullary interstitium. • Explain how urea reabsorption contributes to the hyperosmotic renal medullary interstitium. • Describe the role of regional distribution of renal blood flow in creating hyperosmolarity of the medullary interstitium. • Explain how the kidneys produce concentrated or diluted urine. • Distinguish water diuresis from osmotic diuresis.		
63	**Tubular function & Urine concentration**	• Classify the investigations used to assess the renal function. • Identify the normal values & clinical importance of plasma creatinine, urea, potassium, pH and inorganic phosphate. • Identify the uses of creatinine clearance. • Mention the imaging techniques used to evaluate the urinary tract. • Explain how the kidneys produce concentrated or diluted urine. • Describe the micturition reflex and the higher control of micturition.	**Physiology**	**Tutorial**
64	**Purine metabolism**	• Illustrate steps of purine synthesis. • Demonstrate regulation of purine metabolism. • Explain biochemical basis of some related-drugs. • Explain steps of pyrimidine synthesis and its clinical importance.	**Biochemistry**	**Lecture**
65	**Hyperuricemia and gout**	• Illustrate steps of purine catabolism. • Demonstrate causes of hyperuricemia. • Interpret biochemical basis of gout and its treatment. • Correlate defects in purine metabolism with immune diseases.	**Biochemistry**	**Lecture**
66	**Renal function tests**	• Identify renal function tests and their clinical	**Biochemis**	**Practica**

		indications. • Interpret the results of renal function tests. • Estimate the concentration of serum creatinine • Interpret the results in relation to possible medical problems.	**try**	**l**
67	**Applied biochemistry**	• Correlate some clinical disorders to its biochemical basis	**Biochemistry**	**Tutorial**
68	**Pelvic Subdivisions, Joints & Ligaments**	• Define the true and false pelvis. • Differentiate between male and female pelvis. • Describe the pelvic joints (type, articulations, ligaments, and movements).	**Anatomy**	**Lecture**
69	**Arrangement of pelvic muscles, viscera and peritoneum**	• Discuss the attachments, nerve supply and action of muscles forming the walls and floor of the pelvis. • Compare between arrangement of pelvic viscera in male & female. • Explain the vertical and horizontal dispositions and reflections of the pelvic peritoneum in both males and females. • Explain the site and extent of pelvic fascia.	**Anatomy**	**Lecture**
70	**Pelvic Muscles**	• Origin, insertion, action and nerve supply of each of: ➢ Muscles of the pelvic wall: Piriformis and obturator internus. ➢ Muscles of the pelvic floor (pelvic diaphragm): Levator ani and Coccygeus.	**Anatomy**	**Practical**
71	**Pelvic nerves and vessels**	• Discuss site, origin, formation and branches of sacral plexus, coccygeal plexus and autonomic plexuses of pelvis. • Enumerate arteries & veins of the pelvis. • Describe the beginning, termination and branches of the internal iliac artery & its applied anatomy. • Describe the beginning, termination and	**Anatomy**	**Lecture**

		tributaries of the internal iliac vein.		
72	**Pelvic Nerves and Vessels**	• The arteries of the pelvis: [Internal iliac artery, median sacral and superior rectal arteries]. • The beginning, termination and branches of the internal iliac artery. • The beginning & termination of the internal iliac vein. • The site, formation and branches of sacral plexus. • Vessels related to the sacral plexus.	**Anatomy**	**Practical**
73	**Ureter and Urinary bladder**	• Describe the length, parts, relations and blood supply of the ureter. • Correlate the anatomical sites of ureteric constriction with its clinical significance. • Describe the site, capacity, shape, parts, relations, ligaments, interior structures and peritoneal coverings of the urinary bladder. • Discuss the blood supply, nerve supply and lymphatic drainage of the urinary bladder. • Predict effects of rupture of urinary bladder.	**Anatomy**	**Lecture**
74	**Urethra**	• Identify the length, beginning, course and termination of female urethra. • List the parts of male urethra. • Describe the length, beginning, course, relations and termination of each part of male urethra.	**Anatomy**	**Lecture**
75	**Physiology of micturition & the pathophysiology of its disorders**	• Describe the physiologic anatomy and innervation of the urinary bladder and its sphincters. • Plot the relation between intravesical pressure and volume of urine in the bladder. • Describe the micturition reflex and the higher control of micturition. • Describe the effect of neurological lesions on micturition. • Select the different clinical tests for the evaluation	**Physiology**	**Lecture**

		of renal function.		
76	**Role of kidney in acid-base balance**	• Explain the role that the kidneys play in control of acid-base balance through: H+ secretion and, HCO3- reabsorption and regeneration of new HCO3-, and ammonia (NH3+) secretion. • Solve problem dealing with acid base balance.	**Physiology**	**Lecture**
77	**Acid base balance**	• Explain the different mechanisms for control of acid base balance. • Solve problems concerning the 4 primary disturbances. • Solve problems concerning plasma anion gap.	**Physiology**	**Tutorial**
78	**Renal role in control of sodium and water balance and regulation of plasma osmolartity**	• Explain the renal mechanisms for regulation of water balance. • Explain the role of osmoreceptors. • Explain the role of baroreceptors. • Explain the role of thirst.	**Physiology**	**Lecture**
79	**Glomerulonephritis and Nephrotic Syndrome**	• Determine the cause of the abnormal findings in blood and urine of nephrotic syndrome cases. • List different types of glomerulonephritis causing nephrotic syndrome. • Explain the pathogenesis of different types of glomerulonephritis causing nephrotic syndrome. • Compare between different types of glomerulonephritis causing nephrotic syndrome regarding their histopathological features.	**Pathology**	**Lecture**
80	**Nephretic Syndrome**	• Analyze the different clinical findings in nephritic syndrome. • Explain the pathogenesis of different types of glomerulonephritis causing nephritic syndrome. • Correlate the clinical picture with histopathological features and other laboratory findings in cases of glomerulonephritis with nephritic syndrome.	**Pathology**	**Lecture**

		• Mention the pathological features of chronic diffuse glomerulonephritis, its clinical features and fate.		
81	**Nephrotic and Nephritic Syndromes**	• Define nephrotic and nephritic syndromes. • Describe Clinical presentation of Nephrotic and Nephritic syndrome. • Approach to patient with nephrotic and nephritic syndromes.	**Internal Medicine**	**Lecture**
82	**Diseases of tubules and interstitium & urinary out flow obstruction**	• Determine the etiology of acute pyelonephritis, its clinical picture, pathological features & fate • Mention types of chronic pyelonephritis, its pathological features & complications. • Explain the pathogenesis of hydronephrosis, its pathological features and complications. • Describe the pathological features of pyonephrosis. • Correlate the clinical picture with histopathological features and other laboratory findings in cases of pyelonephritis, hydronephrosis and pyonephrosis.	**Pathology**	**Lecture**
83	**Renal caliculi and renal tumors**	• Mention the sites, etiology and types of renal calculi. • Predict the complications of renal calculi. • Mention the origin of renal cell carcinoma and its methods of spread. • Correlate the clinical picture with the histopathological features and other laboratory investigations in renal cell carcinoma. • State the origin of Wilms' tumour and its methods of spread. • Correlate the clinical picture with the histopathological features and other lab investigations in cases of Wilms' tumour.	**Pathology**	**Lecture**

84	**Diseases of the kidney**	• Identify & Describe the gross picture of different renal diseases. • Identify & Describe the microscopic picture of examples of renal diseases. • Analyze findings of clinical cases concerning renal diseases • Correlate between clinical diagnosis and histopathological data to reach the final diagnosis.	**Pathology**	**Practical**
85	**Congenital anomalies of the kidney, Renal failure & cystitis**	• Enumerate the congenital anomalies of the kidney. • Describe the pathological features of adult and infantile polycystic disease of kidney. • List the causes of acute and chronic renal failure. • Describe the congenital anomalies of urinary bladder. • Determine the clinical picture, etiology, histopathological features and complications of acute cystitis. • Describe the pathological features of chronic non specific cystitis and its complications.	**Pathology**	**Lecture**
86	**Tumors of urinary bladder & hematuria**	• Classify tumours of the urinary bladder. • Determine the etiology and predisposing factors of urinary bladder carcinoma. • Correlate the clinical picture with the histopathological features and other lab investigations in urinary bladder carcinoma. • Outline the effects and complications of urinary bladder carcinoma. • List different causes of hematuria.	**Pathology**	**Lecture**
87	**Transplantation Immunology (1)**	• Identify types of MHC antigens. • Outline the pattern of inheritance in MHC molecules. • Define types of grafts. • Describe types of graft rejection.	**Microbiology**	**Lecture**

88	**Transplantation Immunology (2)**	• Explain the underlying mechanisms of each type of rejection. • Describe the main idea of HLA typing procedures. • How to dampen IR to allow the transplantation to proceed successfully. • Define the immunosuppressive agents used in transplantation.	**Microbiology**	**Lecture**
89	**Immunosuppressants**	• Classify immunosuppressant drugs. • Identify the benefit of using combinations of different immunosuppressant drugs. • Describe pharmacokinetics of calcineurin inhibitors and immunosuppressive antimetabolite. • Discuss mechanism of action, therapeutic uses of calcineurin inhibitors, immunosuppressive antimetabolite and corticosteroids. • List the adverse effects and drug interaction of calcineurin inhibitors and immunosuppressive antimetabolite. • Identify the drug interactions of calcineurin inhibitors and immunosuppressive antimetabolite.	**Pharmacology**	**Lecture**

Part (3): Reproductive System

Theme	**№**	**Title**	**ILOs**	**Discipline**	**Teaching**

Male Reproductive System	**90**	**Scrotum, testis, epididymis and spermatic cord**	• Describe layers, blood supply & lymphatics of scrotum. • Describe shape, size, weight, coverings & blood supply of the testis. • Describe the structure, length, parts, blood supply & function of the epididymis. • List the constituents & coverings of the spermatic cord. • Describe the structure, blood supply & nerve supply of the penis. • Discuss the related applied anatomy (varicocele / circumcision).	**Anatomy**	**Lecture**
	91	**Testis**	• Describe the structure of the testis. • Describe the microscopic structure of the seminiferous tubules. • Interpret the defective testicular structure in various diseases. • List the main stages of spermatogenesis. • Describe the structural changes that occur during spermiogensis. • Correlate the structure of Sertoli cells to its function. • Correlate structure of blood testis barrier to its function. • Interpret the relation between male infertility and the defective structure.	**Histology**	**Lecture**
	92	**Physiology of the male reproductive system (1)**	• Define spermatogenesis. • Describe spermiation and spermiogenesis. • Define spermcapacitation. • Describe Blood-Testis Barrier. • Mention functions of Sertoli Cells. • Describe Tubular Fluid. • List factors affecting spermatogenesis.	**Physiology**	**Lecture**

	93	**Physiology of the male reproductive system (2)**	• Illustrated the endocrine function of the testes (testosterone, inhibin and testicular secretion of estrogen). • Describe functions of testosterone and DHT. • Describe the processes involved in regulation of testosterone secretion. • Illustrate the pituitary control of the testicular functions. • Apply knowledge to solve clinical problem. • Describe mechanism of erection and ejaculation.	**Physiology**	**Lecture**
	94	**Prostatic gland, Seminal vesicle ,vas deferens, and ejaculatory ducts**	• Describe the position, lobes, relations, blood supply and lymphatic drainage of the prostate gland. • Predict the effects of senile enlargement of the prostate gland and the common site of metastasis of cancer prostate. • Discuss the position, length, relations, blood supply, lymphatic drainage and nerve supply of seminal vesicles. • Describe beginning, course, end, blood supply, lymphatic drainage and nerve supply of vas deferens & related applied anatomy (vasectomy). • Recognize mode of formation, beginning, course and termination of ejaculatory ducts.	**Anatomy**	**Lecture**
	95	**Male genital ducts**	• Correlate the structure to the function of Leydig cells. • List the intra and extra testicular duct system. • Describe the structure of epididymis with correlated function. • Correlate the structure to the function of vas deferens and spermatic cord. • Interpret the defective structure in various diseases.	**Histology**	**Lecture**
	96	**Male accessory genital glands and**	• List the male accessory genital glands. • Correlate the structure to the function of the prostate glands.	**Histology**	**Lecture**

		penis	• Interpret the defective structure of the prostatic glands in various diseases. • Describe the structure of the seminal vesicles. • Describe the structure of penis. • Describe the structure of male and female urethra. • Compare the structure of male and female urethra.		
	97	**Male genital system**	• Identify an H&E-stained section of testis & epididymis by the LM. • Identify an H&E-stained section of vas deferens by the LM. • Identify an H&E-stained section of spermatic cord by the LM. • Identify an H&E-stained section of prostate by the LM. • Identify a labelled transmission electron photomicrograph of T.S. section of middle piece of mature sperm. • Identify a labelled transmission electron photomicrograph of L.S. section of mature sperm.	**Histology**	**Practical**
	98	**Diseases of prostate & penis**	• Classify types of prostatitic cancer. • Correlate the pathological features of benign prostatic hyperplasia with clinical picture and other lab investigations. • Explain the complications benign prostatic hyperplasia. • Correlate the pathological features of prostatic carcinoma with clinical picture and other lab investigations. • List methods of spread of prostatic carcinoma. • Discuss diseases of the penis. • State the causes of hydrocele, & hematocele and their effects. • Determine causes, pathological features and effects of varicocele.	**Pathology**	**Lecture**

	99	**Diseases of testis & epididymis**	• Mention causes of cryptorchidism, its sites and complications. • Mention the inflammatory lesions of testes and epididymis. • Classify testicular tumours. • Describe the pathological features of seminoma. • Describe the pathological features of teratoma, embryonal carcinoma, yolk sac tumour and choriocarcinoma. • Determine sex cord stromal tumours and their effects.	**Pathology**	**Lecture**
	100	**Male genital Diseases**	• Describe the gross picture of urinary bladder carcinoma and identify it. • Describe the gross and microscopic picture of male genital system diseases and identify them. • Analyze the findings of clinical cases. • Correlate between clinical diagnosis histopathological data to reach the final diagnosis.	**Pathology**	**Practical**
Female Reproductive System	**101**	**Uterus and vagina**	• Describe position, dimensions, parts, relations, peritoneum, ligaments , blood supply and lymph drainage of uterus • Describe the length, relations, blood supply and lymph drainage of the vagina	**Anatomy**	**Lecture**
	102	**Uterine tube and ovary**	• Describe the length, different parts of uterine tube and its applied anatomy • Describe the position, size, ends, borders , ligaments , relations, blood supply and lymph drainage	**Anatomy**	**Lecture**
	103	**Male and Female Genital Organs**	• Identify the male genital organs: ➢ Testis, spermatic cord, epididymis, vas deferens, seminal vesicles, and prostate gland. • Identify the female genital organs: ➢ ovaries, uterine tubes, uterus and vagina;	**Anatomy**	**Practical**

			regarding their: a) Site, size, shape. b) Parts and special features. c) Relations and peritoneal covering.		
	104	**Ovary**	• Describe the structure and correlated function of the ovary. • Discuss oogenesis and compare between it and spermatogenesis. • Describe the structure and correlated function of the growing ovarian follicles, mature Graafian follicle • Interpret the defective ovarian structure resulting in Down syndrome and polycystic ovarian disease.	**Histology**	**Lecture**
	105	**Ovulation and corpus luteum**	• Discuss the microscopic changes related to ovulation. • List the different types of corpora lutea. • Describe the microscopic structure & correlated function of corpora lutea.	**Histology**	**Lecture**
	106	**Physiology of the female reproductive system (1)**	• Explain the physiologic changes that occur in the female reproductive organs during the menstrual cycle (ovarian cycle - uterine cycle). • Name the key hormones secreted by Graafian follicles and corpora lutea of the ovaries. • Define an ovulatory cycles.	**Physiology**	**Lecture**
	107	**Uterus, Fallopian tube & Vagina**	• Describe the histological structure and function of the body and cervix of the uterus. • Describe the structure of the endometrium at different phases of menstrual cycle. • Interpret the co-relation between menstrual and ovarian cycle. • Interpret the defective structure in endometriosis (chocolate cysts), tubal pregnancy & recurrent vaginal infections.	**Histology**	**Lecture**

			• Clinically correlate between transformation zone and cancer cervix. • Describe the structure and correlated function of the uterine tube and vagina.		
	108	**Female genital system (1)**	• Identify an H&E-stained section of the ovary using the LM in one minute. • Identify an H&E-stained section of uterus by the LM. • Identify a labelled electron photomicrograph of fallopian tube lining epithelium. • Identify an H&E-stained section of fallopian tube by the LM in one minute.	**Histology**	**Practical**
	109	**Physiology of the female reproductive system (2)**	• Explain the cyclic changes in the uterine cervix, vagina, and breasts. • Describe the indicator for ovulation. • Explain the functions of estrogen and progesterone.	**Physiology**	**Lecture**
	110	**Physiology of the female reproductive system (3)**	• Explain the roles of the pituitary and the hypothalamus in the regulation of ovarian function. • Explain the effect of lactation on menstrual cycles. • Apply knowledge to solve MCQ and clinical problem.	**Physiology**	**Lecture**
	111	**Male & Female Reproductive Physiology**	• Interpret the role of pituitary FSH and LH hormones in controlling male and female reproductive functions. • Identify the physiological actions of androgens and estrogens. • Interpret the causes of male hypogonadism. • Interpret causes of amenorrhea.	**Physiology**	**Tutorial**
	112	**Physiology of puberty, pregnancy and menopause**	• Summarize the hormonal changes that occur at puberty in females. • Describe functions of the placental hormones during pregnancy. • Enumerate the functions of human chorionic gonadotropins (hCG).	**Physiology**	**Lecture**

			• Outline the hormonal changes and their physiologic effects during menopause.		
	113	**Perineum I: divisions , pouches & ischiorectal fossa**	• Define the perineum. • Describe boundaries and divisions of the perineum. • Describe boundaries and contents of ischiorectal fossa. • Describe formation and contents of pudendal canal. • Discuss the procedure of pudendal nerve block.	**Anatomy**	**Lecture**
	114	**Perineum II: perineal pouches**	• Describe the urogenital triangle. • Compare the boundaries and contents of the superficial and deep perineal pouches. • Comment on the related applied anatomy (rupture membranous and penile urethra)	**Anatomy**	**Lecture**
	115	**Mammary gland**	• Describe the extent & structure of the breast. • Describe the blood supply & lymphatic drainage of the breast. • Discuss the related applied anatomy	**Anatomy**	**Lecture**
	116	**Placenta & Mammary gland**	• Describe the development of the placenta. • Describe the correlated structure to function of the placenta and placental barrier. • Interpret the relation between abnormal placentation and different diseases. • Describe the structure of the resting mammary gland. • Describe the structure of the lactating mammary gland. • Interpret the relation between lactational amenorrhea and infertility.	**Histology**	**Lecture**
	117	**Female genital system (2)**	• Identify an H&E-stained section of vagina by the LM. • Identify an H&E-stained section of placenta by the LM. • Identify an H&E-stained section of resting mammary	**Histology**	**Practical**

			gland by the LM. - Identify an H&E-stained section of lactating mammary gland by the LM.		
	118	**Development of urinary system (1)**	- Define the stages of development of the human kidney. - Describe each stage as regards its timing, features, fate. - Compare between the fate of mesonephric duct in males & females. - Describe the developmental components and anomalies of the human kidney.	**Anatomy**	**Lecture**
	119	**Development of urinary system (2)**	- Describe the developmental components & anomalies of urinary bladder. - List the fate & derivatives of the primitive urogenital sinus. - Comment on the relevant congenital anomalies.	**Anatomy**	**Lecture**
	120	**Congenital Anomalies of the Urinary system**	- Anomalies of kidney development: ➢ Renal Agenesis. ➢ Congenital polycystic Kidney. ➢ Double kidney. ➢ Persistent fetal lobulation. ➢ Aberrant renal artery. ➢ Horseshoe kidney / Pelvic kidney. - Anomalies of the ureter: ➢ Bifid Ureter. ➢ Double Ureter. ➢ Ectopic ureter. - Anomalies of the urinary bladder: ➢ Urachal fistula. ➢ Urachal cyst. ➢ Urachal sinus. ➢ Ectopia vesicae. ➢ Rectovesical fistula.	**Anatomy**	**Practical**

	121	**Development of genital system (1)**	• Explain sequence of events taking place during prenatal development of the gonads. • Correlate the sequence of development with the possible resulting congenital anomalies of the gonads.	**Anatomy**	**Lecture**
	122	**Development of genital system (2)**	• Explain sequence of events taking place during prenatal development of mesonephric (Wolffian) ducts, paramesonephric (Mullerian) ducts and external genitalia in both male & female. • Correlate the sequence of development with the possible resulting congenital anomalies of the genital ducts.	**Anatomy**	**Lecture**
	123	**Congenital Anomalies of the Genital system**	• Identify congenital anomalies of male and female genital systems: ➢ Testicular anomalies: a) Undescended Testis (cryptorchism). b) Maldescended testis (ectopic). c) Absent (agenesis) or double testes. ➢ Anomalies of processus vaginalis: a) Hydrocele. b) Congenital inguinal hernia. ➢ Ovarian anomalies: a) Hypoplasia. b) Abnormal descent of the ovary. ➢ Anomalies of the genital duct: ➢ Anomalies of male external genitalia: a) Hypospedias. b) Epispedias. • Diagnostic Imaging Anatomy ➢ Identify the various images a) Imaging of the female genital system (HSG, CT scan & MRI). b) Imaging of the male genital system (CT scan & MRI).	**Anatomy**	**Practical**

			c) Imaging of the pituitary gland. d) Imaging of the urinary system.		
	124	**Male & Female Sex Hormones Analogs & Inhibitors (1)**	• List the Anti-androgens. • Identify the mechanisms of action and therapeutic indications of the Anti-androgens. • Describe the mechanism of action and pharmacologic effects of estrogens preparations. • Explain the adverse effects of estrogens preparations.	**Pharmacology**	**Lecture**
	125	**Male & Female Sex Hormones Analogs & Inhibitors (2)**	• Describe the mechanism of action, uses and adverse effects of SERMs. • Identify the mechanism of action and uses of Pure Estrogen Receptor Antagonists and Synthesis Inhibitors. • Classify the Progestogens preparations. • Describe the pharmacologic effects, therapeutic uses and side effects of progestins. • Identify the mechanisms of action and therapeutic indications of the Antiprogestogens: Mifepristone, Danazol.	**Pharmacology**	**Lecture**
	126	**Contraceptives**	• Identify hormonal contraceptive preparations and their combinations. • Describe the mechanism of action and adverse effects of hormonal contraceptives. • List the benefits and hazards of hormonal contraceptives.	**Pharmacology**	**Lecture**
	127	**Treatment of osteoporosis**	• Classify drugs used in the treatment of osteoporosis. • Describe pharmacokinetics, mechanism of action and adverse effects of drugs used in the treatment of osteoporosis.	**Pharmacology**	**Lecture**
	128	**Diseases of Vulva, vagina and cervix (1)**	• Outline the differences between acute and chronic inflammatory lesions Bartholin's gland. • Identify the tumors of the vagina.	**Pathology**	**Lecture**

			• Describe sarcoma botryoides. • Recall the pathology of gonorrhea. • Explain the pathology of acute inflammation of the cervix. • Describe the pathology of Nabothian’s cyst and cervical erosion. • Mention complications of cervical squamous metaplsia. • Discriminate between the pathological types of non neoplastic lesions of the cervix. • Define cervical intraepithelial neoplsia (CIN). • Describe gross picture, microscopic picture and fate of CIN.		
	129	**Diseases of the cervix (2)**	• Explain the pathogenesis and risk factors of cervical carcinoma and its relation to HPV. • Demonstrate the gross and microscopic pictures of cervical carcinoma. • Describe staging and spread of cervical carcinoma. • Recall the etiology, pathological features and complications of puperal sepsis. • List causes of dysfunctional uterine bleeding.	**Pathology**	**Lecture**
	130	**Diseases of the body of the uterus (1)**	• Describe the pathology of adenomyosis. • Describe the pathology endometriosis. • Identify theories of pathogenesis of endometriosis. • List complications of adenomyosis and endometriosis. • Define endometrial hyperplasia. • Mention etiology and types of endometrial hyperplasia. • Demonstrate gross picture, microscopic picture and complications of endometrial hyperplasia.	**Pathology**	**Lecture**
	131	**Diseases of the body of the uterus**	• Discuss the pathology of benign endometrial polyp. • Mention risk factors of endometrial carcinoma. • Explain the pathogenesis of endometrial carcinoma.	**Pathology**	**Lecture**

		(2)	• Demonstrated the gross and microscopic pictures of endometrial carcinoma. • Define mesenchymal tumors of the body of the uterus. • Demonstrate gross & microscopic pictures and complications of uterine leiomyoma. • Describe the pathological criteria of leiomyosarcoma.		
	132	**Pathology of the ovary (1)**	• Mention types of salpinigitis • Summarize tumors of fallopian tubes • Describe the pathology of non neoplastic ovarian cysts: a) Follicular cyst. b) Corpus luteam cyst. c) Endometriotic cyst. d) Polycystic ovary. • Classify ovarian tumors. • Demonstrate the gross and microscopic pictures of serous and mucinous surface epithelial tumors of the ovary. • Describe the pathology of Brenner's tumor. • Mention complications of benign surface epithelial tumors of the ovary. • Summarize malignant epithelial surface tumors of the ovary.	**Pathology**	**Lecture**
	133	**Pathology of the ovary (2)**	• Demonstrate the pathology of different types of germ cell tumors of the ovary (dysgerminoma, teratoma and yolk sac tumor). • Demonstrate the pathology of sex cord stromal tumors of the ovary (Granulosa cell tumor, theca cell tumor, fibroma, Sertoli Leyding cell tumor). • Summarize types of metastatic ovarian tumors.	**Pathology**	**Lecture**
	134	**Diseases of the**	• Classify gestational trophoblastic diseases. • Demonstrate the pathology and complications of	**Pathology**	**Lecture**

		placenta & ectopic pregnancy	vesicular mole. • Differentiate between complete and partial vesicular mole. • Distinguish between the pathology of invasive mole and pathology of choriocarcinoma. • Describe ectopic pregnancy.		
	135	**Female genital Diseases**	• Describe the gross pathology of: a) Uterine leiomyoma. b) Endometrial polyp. c) Ovarian serous cystadenoma. d) Ovarian papillary serous cystadenoma. e) Ovarian mucinous cystadenoma. f) Mature cystic teratoma, ovary. g) Carcinoma of body of uterus. h) Vesicular mole. • Describe the microscopic picture of: a) Proliferative endometrium. b) Secretory endometrium. c) Leiomyoma.	**Pathology**	**Practical**
	136	**Inflammatory and hyperplastic lesions of the breast**	• Mention the clinical presentation and methods of evaluation of breast disease. • List causes of mastitis. • Discuss the pathology of mastitis. • Describe etiology, clinical and microscopic picture of fat necrosis. • Summarize etiology and pathology of duct ectasia. • Define fibrocystic disease of the breast. • Mention etiology and incidence of fibrocystic disease of the breast. • Describe gross and microscopic picture of fibrocystic disease of the breast. • Distinguish fibrocystic disease from carcinoma of the breast. • Demonstrate the pathology of sclerosis adenosis of	**Pathology**	**Lecture**

			the breast. • Classify tumors of the breast.		
	137	**Tumors of the breast (1)**	• Demonstrate clinical picture and pathological criteria of fibroadenoma of the breast. • Describe the pathology of phylloides tumors. • Identify the pathology of intraductal papilloma. • Outline the clinical presentation and methods of diagnosis of breast cancer. • Summarize risk factors of breast cancer. • Explain etiopathogenesis of breast cancer. • Describe the pathology of non invasive (in situ) carcinoma of the breast.	**Pathology**	**Lecture**
	138	**Tumors of the breast (2)**	• Describe gross and microscopic pictures of invasive ductal carcinoma of the breast. • Describe gross and microscopic pictures of invasive lobular carcinoma of the breast. • Summarize the pathology of tubular, medullary and colloid carcinoma of the breast. • Describe the pathology of Paget’s disease of the breast. • List routes of spread of cancer breast. • Identify the prognostic factors of cancer breast. • Define gynecomastia. • Mention causes of gynecomastia.	**Pathology**	**Lecture**
	139	**Lesions of the breast**	• Describe gross picture of: a) Fibrocystic disease of breast. b) Fibroadenoma of breast. c) Infiltrating carcinoma of breast. • Describe microscopic picture of: a) Fibroadenoma of breast. b) Intraductal carcinoma of breast. c) Infiltrating duct carcinoma of the breast.	**Pathology**	**Practical**

Other parallel courses during the module period

1. Clinical & Technical Skills II CTS 202

TS 1	Blood Glucose Measurement and Interpretation
TS 2	Urine Sample Testing & Interpretation
TS 3	Assessment of hydration/volume (body fluid status)

2. Public Health, Community & Occupational Medicine II PH 201

No	TUTORIAL / Practical TOPIC	ILOs By the end of the session the student will be able to:
1	**Gaussian Distribution + Practical**	• Describe the main features of the normal distribution curve of continuous quantitative variables. • Use the mean and standard deviation to define areas under the normal distribution curve. • Calculate Z-score for a given value of an observation. • Interpret the results of the Z score. • Identify Skewness and Kurtosis of a distribution.
2	**Sampling variability + Confidence Interval + Practical**	• Recognize concepts of sampling variability and standard error (SE). • Differentiate between confidence level, confidence limits, and confidence intervals. • Calculate the SE of a sample mean, and use it to estimate a 95% confidence interval. • Calculate confidence interval for the population means (μ) when the population standard deviation (σ) is unknown. • Interpret the results of SE, and confidence interval.
3	**Hypothesis testing + Practical**	• Formulate the research hypotheses (Null & Alternative) to be tested • Explain a significance test and its purpose. • Choose appropriate statistical significance test for different sets of data. • Differentiate between the situations in which different statistical tests are applied. • Compare the p-value (probability of the chance) that corresponds to the calculated test values, with the level of significance that is predetermined in the study (5%). • Make a decision concerning whether to accept or reject null hypothesis.
4	**How to read & interpret Results**	• Understand the results section in scientific papers. • Comment on tables and graphs in the results section.

	section of a scientific paper “Practical Application”	• Formulate conclusions and recommendations based on results interpretation.

1. Research Track II RT 204

Topic	ILOs	Method of teaching
Experimental research Designs	***By the end of the 2 Sessions and hands-on practice students will be able to:*** 1. To identify the different experimental designs (the merits and demerits of each) and indications of using such designs (including Quasi-experimental). 2. To design an appropriate methodology with the essential requisites of conducting a true research (interventional study) while considering the possible internal and external validity threats (and possible biases). 3. How to avoid biased selection	Interactive, group work and presentation

	(Randomization).	

Chapter 3: Learning Strategies

In the Neuroscience module, the students will be enriched with a spectrum of different learning strategies that enhances their learning experience. These strategies include:

Interactive lectures:

Interactive lectures are the main teaching strategy in this module. They go beyond the traditional boundaries of the lecture format through increasing engagement and introduction of active learning methods. Thus, transforming the students from being passive listeners to active contributors. In lectures, an efficient and organized delivery of a large body of knowledge will be presented in a simplified manner to the students' level of understanding.

Amin Z and Eng K H (2003). Making Lecture Effective. In: Basics in Medical Education. 1st Edition. World Scientific Publishing Co. Pte. Ltd. ISBN-13 978-981-238-209-2.

Integrated lectures:

This approach with careful planning is extended to involve clinical departments thus reaching vertical integration. Including more such integrated interactive sessions proves to be significant and an effective tool for teaching and learning. Issues, such as duplication and overlapping of topics taught in the entire course, can sometimes act as lacunae in the qualitative and quantitative advancement in medical education and also in the achievements of health care system. The above deficiencies can be overcome by implementing integrated lecture approach to teaching._

Lohitashwa R, Narendra SS, Mufti M. Evaluation of impact of integrated teaching over didactic lecture on student learning. J Educ Res Med Teach 2014;2:14-6.

Raman VL, Solomon Raju K. Study on effectiveness of integrated lecture module versus didactic lecture module in learning skills. IOSR Journal of Dental and Medical Sciences (IOSR-JDMS) 2015;14:14-6.

Tutorial teaching

Tutorial is a student-centered learning strategy, which provides an opportunity for students to ask questions, express points of view and generally interact and relate with the tutor and other students through discussion. The core of the tutorial teaching process lies in the interplay between the student's and the tutor's conceptions of learning.

Graham Webb (1983). The Tutorial Method, Learning Strategies and Student Participation in Tutorials: Some Problems and Suggested Solutions, Innovations in Education & Training International, 20:2, 117-121, DOI: 10.1080/0033039830200204

Self-Directed learning (SDL):

It is an active engagement learning process, in which students take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes. SDL is the cornerstone for students to achieve the ultimate goal of being continuous life-long learners and possessing the capacity of future professional growth.

Saks K and Leijen A (2014). Distinguishing Self-Directed and Self-Regulated Learning and measuring them in the E-learning Context. Procedia - Social and Behavioral Sciences. 112; 190 – 198.

Case-Based Learning:

In this learning strategy a case is presented including a description of patients' problem that requires analysis and interpretation of data and decision-making by the learners. The learners' tasks are to critically analyze the relevance and usefulness of the data, interpret their meaning, and eventually propose a hypothesis. This form of teaching strategy is effective in stimulating critical thinking, problem solving, and other higher order cognitive skills.

Amin Z and Eng K H (2003). Case-Based Teaching. In: Basics in Medical Education. 1st Edition. World Scientific Publishing Co. Pte. Ltd. ISBN-13 978-981-238-209-2.

Student Support and Guidance

Students' support and guidance are based on the provision of clear and timely academic assistance.

Staff members at AFCM are allocated to students in fixed, announced office hours as personal tutors to offer general academic guidance and support.

The students are also provided with Student Guide for each module. This indicates what they should learn and how this learning can be achieved and evaluated. Student guide provides students with learning outcomes, details of the program and guidance to support self-study and self-assessment.

Chapter 4: Learning Resources

- **Biochemistry:**
  1. Lippincott's Illustrated Reviews in Biochemistry" by P.C.Champe, R.A.Harvey and D.R. Ferrier, 6th Edition.
  2. "Harper's Biochemistry" by R.K.Murray, D.K.Granner, P.A. Mayes and V.W. Rodwell, 29th Edition.
- **Anatomy:**
  1. Gray’s anatomy for students: With student consult online access, 3rd Edition.
  2. Snell, clinical anatomy by regions, 9th Edition.
  3. Atlas of human anatomy by Frank H. Netter, 6th Edition.
  4. Web site: www.studentconsult.com
  5. Keith L. Moore: Before we are born, essentials of embryology and birth defects; 7th edition.
  6. Langman: Medical embryology; 14th edition.
- **Physiology:**
  1. Text Book of Medical Physiology (2016). Guyton& Hall, thirteenth edition. International edition. ELSEVIER SAUNDERS.
  2. Ganong Review of Medical Physiology (2016).Twenty fifth edition. McGraw Hill.
  3. Fox Human Physiology, 14th Edition.

4. Sherwood Human Physiology. From Cells to Systems, 9th Edition.

- **Histology:**

1. Mescher AL (2018): Junqueira's Basic Histology. Text and Atlas. Fifteenth Edition. McGraw Hill.
2. Eroschenko V (2013): diFiore's Atlas of Histology with Functional correlations. 12th Edition. Walters Kluwer/Lippincott Williams & Wilkins.
3. Michael H. Ross and Wojciech Pauwlina (2015): Histology. A text and atlas. 7th edition. Wolters kluwer.
4. Netter’s Essential Histology, 2nd edition, 2013.
5. http://www.histology-world.com/
6. http://www.histologyguide.org/index.htm

- **Pathology:**

1. Robbins basic of Pathology, 10th edition (2018).
2. Kaplan Medical step 1, lecture notes in Pathology.
3. Hursh Mohan Text Book of Pathology, 7th ed. (2015)

- **Pharmacology:**

1. Whalen, K., Finkel, R., & Panavelil, T. A. (2018) Lippincott's Illustrated Reviews: Pharmacology (7th edition.). Philadelphia: Wolters Kluwer

2. Katzung BG, Trevor AJ. (2018). Basic & Clinical Pharmacology (14th edition) New York: McGraw-Hill Medical.

- **Medical Microbiology & Immunology:**

1. Levison's review of Medical Microbiology and Immunology.
2. Abul Abbas & Lichtmann (2015). Cellular and molecular Immunology.

Chapter 5: Faculty and Mentors

Task	Assigned Staff	Sharing Department
Main module coordinator	Dr/ Nermine Nosseir	Medical Education development Unit MEDU
Module coordinators	Dr/ Eman Habib	Anatomy
	Prof/ Hanan Alaa	Histology
	Dr/ Marwa Ali	Biochemistry

	Dr/ Wesam Ezzat	Physiology
	Dr/ Sara Adel	Pharmacology
	Dr/ Omnia Kamel	Pathology
	Prof/ Marwa Saad	Microbiology
	Dr/ Nesma Ali	Internal Medicine
	Dr/ Rabab	Internal Medicine
	Dr/ Samar Fouad	Psychiatry
	Dr/ Ghada Wassif	Public Health

Chapter 6: Module assessment

Endocrine & Genito-urinary Module EGU 208

	Timing & Types	Method	Marks
60%	Continuous assessment during the module	MCQ	26 marks

	Task-based portfolio	Holistic scoring rubric	26 marks
	End module examination	MCQ	52 marks
	End module practical examination	Objective Structured Practical Examination (OSPE)	52 marks
40%	End year written examination	MCQ Short essay questions	104 marks
	Total		260 marks

As compensation applies across assessment components in this module, a fail of the components will require a supplementary exam to be undertaken to progress with percentage marks distribution as follows:

%	Type	Method	Marks
70%	Written exam	MCQ Short essay questions	182
20%	Practical exam	Objective Structured Practical Examination (OSPE)	52
10%		Task-based portfolio	26
	Total		260

Module assessment Schedule

Assessment schedule

Assessment	Timing	Assessment Method
Mid-module exam	22/5/2022	MCQ
End-module exam	26/6/2022	MCQ
End-module OSPE exam	27/6/2022	OSPE
End-year exam		MCQ & Short Essay

Weighting of different assessment types:

Exam	Marks allocated	% Marks
Mid-module exam	26 marks	10 %
End-module exam	52 marks	20 %
End-module OSPE exam	52 marks	20 %
End-year exam	104 marks	40 %
Student’s Portfolio	26 marks	10 %
Total	**260**	**100%**

Pre-clerkship Phase Endocrine & Genito-urinary Module Evaluation form	**Edition No.00**	**Issue No.01**	**.Code No**	
	Date of Edition /	**Date of issue 11/2018**	**F-ME-1a.2F**	**Quality Assurance and Accreditation Department**

Module Evaluation

(To be filled in by each cadet at the end of each module)

Name of Cadet:				**ID No.:**	
Academic Year:	**2018/2019**	**Module:**		**PBL Group:**	

Thank you for taking the time to complete this evaluation form. Your feedback will help the college to continuously improve the educational program. Please complete and return the form to your group tutor.

Totally agree **Totally disagree** **2** **3** **4** **5** **1**					
1. The objectives of the Module were clear					
2. The Module Lecture notes and study guide were well organized and helpful					
3. The Module contents fitted in with the Module objectives					
4. The recommended resources/ lectures were useful					
5. The module assignments were linked well to the module contents					
6. The lectures were useful					
7. The First Aid / Basic Life Support skills training sessions were useful					
8. The skills lab training session were related to the Module contents					
9. The Presentation Skills training sessions were useful					

What did you like in this Module?

Provide suggestions for improvement

Pre-clerkship Phase Cadets' Evaluation of the Student Guide form	**Edition No.00**	**Issue No.01**	**.Code No**	
	Date of edition /	**Date of issue 11/2018**	**F-ME-1a.3F**	**Quality Assurance and Accreditation Department**

Cadets' Evaluation of the Study Guide

Name of Cadet:		**ID No.:**	

Dear Cadets: we appreciate your input about this study guide. This information is very useful in maintaining a high quality of education in our college. We will use your input in updating the Module student guide for the next academic year. Please fill this form at the end of the Module and submit it to your Module Coordinator.

1. **How would you rate the Module study guide in helping cadets learning in the module?**

Not very helpful

Helpful

Very helpful

2. **Which part(s) of the Module study guide have you found most useful? (check all that apply)**

General Module timetable

Learning opportunities

List of tutors in the Module

Learning objectives

Learning resources

Principles of assessment

3. **Which part(s) of the Module study guide have you found least useful? (check all that apply)**

General Module timetable

Learning opportunities

List & summary of the problems

List of tutors in the Module

Learning objectives

Learning resources

Principles of assessment

4. **What modifications would you like to see addressed in this Study Guide?**

Please provide any additional comments you wish to make about the Module Study Guide.

5. **In your view was the Module well received by the cadets? Explain.**